

# An Indexed Bibliography of Genetic Algorithms in Robotics

compiled by

**Jarmo T. Alander**

**dedicated to Toshio Fukuda**

Department of Information Technology and Production Economics

University of Vaasa

P.O. Box 700, FIN-65101 Vaasa, Finland

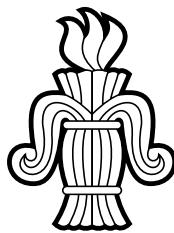
e-mail: [Jarmo.Alander@uwasa.fi](mailto:Jarmo.Alander@uwasa.fi)

www: <http://www.uwasa.fi/~jal>

phone: +358-6-324 8444

fax: +358-6-324 8467

Report Series No. 94-1-ROBOT



DRAFT September 3, 1998

available via anonymous ftp: site [ftp.uwasa.fi](ftp://ftp.uwasa.fi) directory `cs/report94-1` file `gaROBOTbib.ps.Z`

## **Trademarks**

Product and company names listed are trademarks or trade names of their respective companies.

## **Warning**

While this bibliography has been compiled with the utmost care, the editor takes no responsibility for any errors, missing information, the contents or quality of the references, nor for the usefulness and/or the consequences of their application. The fact that a reference is included in this publication does not imply a recommendation. The use of any of the methods in the references is entirely at the user's own responsibility. Especially the above warning applies to those references that are marked by trailing '†' (or '\*'), which are the ones that the editor has unfortunately not had the opportunity to read. An abstract was available of the references marked with '\*'.

# Contents

<b>1 Preface</b>	<b>1</b>
1.1 Your contributions erroneous or missing? . . . . .	1
1.1.1 How to cite this report? . . . . .	2
1.2 How to get this report via <b>Internet</b> ? . . . . .	2
1.3 Acknowledgement . . . . .	2
<b>2 Introduction</b>	<b>5</b>
<b>3 Statistical summaries</b>	<b>7</b>
3.1 Publication type . . . . .	7
3.2 Annual distribution . . . . .	7
3.3 Classification . . . . .	7
3.4 Authors . . . . .	8
3.5 Geographical distribution . . . . .	8
3.6 Conclusions and future . . . . .	10
<b>4 Indexes</b>	<b>11</b>
4.1 Books . . . . .	11
4.2 Journal articles . . . . .	11
4.3 Theses . . . . .	11
4.3.1 PhD theses . . . . .	12
4.3.2 Master's theses . . . . .	12
4.4 Report series . . . . .	12
4.5 Patents . . . . .	12
4.6 Authors . . . . .	13
4.7 Subject index . . . . .	18
4.8 Annual index . . . . .	22
4.9 Geographical index . . . . .	23
<b>5 Permuted title index</b>	<b>25</b>
<b>Bibliography</b>	<b>45</b>
<b>Appendixes</b>	<b>73</b>
<b>A Abbreviations</b>	<b>73</b>
<b>B Bibliography entry formats</b>	<b>74</b>

# List of Tables

1.1	Indexed GA subbibliographies. . . . .	3
2.1	Queries used to extract this subbibliography from the main database. . . . .	5
3.1	Distribution of publication type. . . . .	7
3.2	Annual distribution of contributions. . . . .	7
3.3	The most popular subjects. . . . .	8
3.4	The most productive genetic algorithms in robotics authors. . . . .	8
3.5	The geographical distribution of the authors. . . . .	9

# Chapter 1

## Preface

“Living organism are consummate problem solvers.  
They exhibit a versatility that puts the best computer  
programs to shame.”

*John H. Holland* [1]

The material of this bibliography has been extracted from the genetic algorithm bibliography [2], which when this report was compiled contained 10684 items and which has been collected from several sources of genetic algorithm literature including Usenet newsgroup `comp.ai.genetic` and the bibliographies [3, 4, 5, 6]. The following index periodicals have been used systematically

- ACM: *ACM Guide to Computing Literature*: 1979 – 1993/4
- BA: *Biological Abstracts*: July 1996 - Nov. 1997
- ChA: *Chemical Abstracts*: Jan. 1997 - Aug. 1998
- CA: *Computer Abstracts*: Jan. 1993 – Feb. 1995
- CCA: *Computer & Control Abstracts*: Jan. 1992 – Apr. 1998 (except May -95)
- CTI: *Current Technology Index* Jan./Feb. 1993 – Jan./Feb. 1994
- DAI: *Dissertation Abstracts International*: Vol. 53 No. 1 – Vol. 56 No. 10 (Apr. 1996)
- EEA: *Electrical & Electronics Abstracts*: Jan. 1991 – Apr. 1997
- P: *Index to Scientific & Technical Proceedings*: Jan. 1986 – Dec. 1997 (except Nov. 1994)
- A: *International Aerospace Abstracts*: Jan. 1995 – Mar. 1998
- N: *Scientific and Technical Aerospace Reports*: Jan. 1993 - Dec. 1995 (except Oct. 1995)
- EI A: *The Engineering Index Annual*: 1987 – 1992
- EI M: *The Engineering Index Monthly*: Jan. 1993 – Apr. 1998 (except May 1997)

### 1.1 Your contributions erroneous or missing?

The bibliography database is updated on a regular basis and certainly contains many errors and inconsistencies. The editor would be glad to hear from any reader who notices any errors, missing information, articles etc. In the future a more complete version of this bibliography will be prepared for the genetic algorithms in robotics research community and others who are interested in this rapidly growing area of genetic algorithms.

When submitting updates to the database, paper copies of already published contributions are preferred. Paper copies (or ftp ones) are needed mainly for indexing. We are also doing reviews of different

aspects and applications of GAs where we need as complete as possible collection of GA papers. Please, do not forget to include complete bibliographical information: copy also proceedings volume title pages, journal table of contents pages, etc. Observe that there exists several versions of each subbibliography, therefore **the reference numbers are not unique and should not be used alone in communication**, use the key appearing as the last item of the reference entry instead.

Complete bibliographical information is really helpful for those who want to find your contribution in their libraries. If your paper was worth writing and publishing it is certainly worth to be referenced right in a bibliographical database read daily by GA researchers, both newcomers and established ones.

For further instructions and information see `ftp.uwasa.fi/cs/GAbib/README`.

### 1.1.1 How to cite this report?

The complete BiBTeX record for this report is shown below:

```
@TECHREPORT{gaROBOTbib,
  KEY = "ROBOT",
  ANNOTE = "*on,*FIN,bibliography /special",
  AUTHOR = "Jarmo T. Alander",
  TITLE = "Indexed Bibliography of Genetic Algorithms in Robotics",
  INSTITUTION = "University of Vaasa, Department of Information Technology and Production Economics",
  TYPE = "Report",
  NUMBER = "94-1-ROBOT",
  NOTE = "(\ftp{ftp.uwasa.fi}{cs/report94-1}{gaROBOTbib.ps.Z})",
  YEAR = 1995
}
```

You can also use the BiBTeX file `GASUB.bib`, which is available in our ftp site `ftp.uwasa.fi` in directory `cs/report94-1` and contains records for all GA subbibliographies.

## 1.2 How to get this report via Internet?

Versions of this bibliography are available via anonymous ftp and www from the following sites:

<i>media</i>	<i>country</i>	<i>site</i>	<i>directory</i>	<i>file</i>
ftp	Finland	ftp.uwasa.fi	/cs/report94-1	gaROBOTbib.ps.Z
www	Finland	http://www.cs.hut.fi	~ja/gaROBOTbib	gaROBOTbib.html

Observe that these versions may be somewhat different and perhaps reduced as compared to this volume that you are now reading. Due to technical problems in transforming L<sup>A</sup>T<sub>E</sub>X documents into html ones the www versions contain usually less information than the corresponding ftp ones. It is also possible that the www version is completely unreachable.

The directory also contains some other indexed GA bibliographies shown in table 1.1.

## 1.3 Acknowledgement

The editor wants to acknowledge all who have kindly supplied references, papers and other information on genetic algorithms in robotics literature. At least the following GA researchers have already kindly supplied their complete autobiographies and/or proofread references to their papers: Dan Adler, Patrick Argos, Jarmo T. Alander, James E. Baker, Wolfgang Banzhaf, Helio J. C. Barbosa, Hans-Georg Beyer, Christian Bierwirth, Joachim Born, Ralf Bruns, I. L. Bukatova, Thomas Bäck, David E. Clark, Yuval Davidor, Dipankar Dasgupta, Marco Dorigo, J. Wayland Eheart, Bogdan Filipič, Terence C. Fogarty, David B. Fogel, Toshio Fukuda, Hugo de Garis, Robert C. Glen, David E. Goldberg, Martina Gorges-Schleuter, Hitoshi Hemmi, Vasant Honavar, Jeffrey Horn, Aristides T. Hatjimihail, Mark J. Jakiela, Richard S. Judson, Bryant A. Julstrom, Charles L. Karr, Akihiko Konagaya, Aaron Konstam, John R. Koza, Kristinn Kristinnsson, D. P. Kwok, Gregory Levitin, Carlos B. Lucasius, Michael de la Maza, John R. McDonnell, J. J. Merelo, Laurence D. Merkle, Zbigniew Michalewics, Melanie Mitchell, David

<i>file</i>	<i>contents</i>
ga90bib.ps.Z	GA in 1990
ga91bib.ps.Z	GA in 1991
ga92bib.ps.Z	GA in 1992
ga93bib.ps.Z	GA in 1993
ga94bib.ps.Z	GA in 1994
ga95bib.ps.Z	GA in 1995
ga96bib.ps.Z	GA in 1996
ga97bib.ps.Z	GA in 1997
gaAIbib.ps.Z	GA in artificial intelligence
gaALIFEbib.ps.Z	GA in artificial life
gaARTbib.ps.Z	GA in art and music
gaAUSbib.ps.Z	GA in Australia
gaBASICSbib.ps.Z	Basics of GA
gaBIObib.ps.Z	GA in biosciences including medicine
gaCADbib.ps.Z	GA in Computer Aided Design
gaCHEMPHYSbib.ps.Z	GA in chemistry and physics
gaCONTROLbib.ps.Z	GA in control
gaCSbib.ps.Z	GA in computer science (incl. databases and GP)
gaDBbib.ps.Z	GA in databases
gaECObib.ps.Z	GA in economics and finance
gaENGBib.ps.Z	GA in engineering
gaESbib.ps.Z	Evolution strategies
gaFAR-EASTbib.ps.Z	GA in the Far East (Japan etc)
gaFRAbib.ps.Z	GA in France
gaFTPBib.ps.Z	GA papers available via ftp
gaFUZZYbib.ps.Z	GA and fuzzy logic
gaGERbib.ps.Z	GA in Germany
gaGPbib.ps.Z	genetic programming
gaIMPLEbib.ps.Z	implementations of GA
gaISbib.ps.Z	immune systems
gaJOURNALbib.ps.Z	journal articles
gaLOGISTICSbib.ps.Z	GA in logistics
gaMANUbib.ps.Z	GA in manufacturing
gaMEDITERbib.ps.Z	GA in the Mediterranean
gaNNbib.ps.Z	GA in neural networks
gaNORDICbib.ps.Z	GA in Nordic countries
gaOPTIMIBib.ps.Z	GA and optimization (only a few refs)
gaOPTICSbib.ps.Z	GA in optics and image processing
gaORBib.ps.Z	GA in operations research
gaPARAbib.ps.Z	Parallel and distributed GA
gaPOWERbib.ps.Z	GA in power engineering
gaPROTEINbib.ps.Z	GA in protein research
gaROBOTbib.ps.Z	GA in robotics
gaSAbib.ps.Z	GA and simulated annealing
gaSIGNALbib.ps.Z	GA in signal and image processing
gaTHEORYbib.ps.Z	Theory and analysis of GA
gaTOP10bib.ps.Z	Authors having at least 10 GA papers
gaUKbib.ps.Z	GA in United Kingdom
gaVLSIbib.ps.Z	GA in VLSI design and testing

Table 1.1: Indexed GA subbibliographies.

J. Nettleton, Volker Nissen, Ari Nissinen, Tomasz Ostrowski, Kihong Park, Nicholas J. Radcliffe, Colin R. Reeves, Gordon Roberts, David Rogers, Ivan Santibáñez-Koref, Marc Schoenauer, Markus Schwehm, Hans-Paul Schwefel, Michael T. Semertzidis, Moshe Sipper, William M. Spears, Donald S. Szarkowicz, El-Ghazali Talbi, Masahiro Tanaka, Leigh Tesfatsion, Peter M. Todd, Marco Tomassini, Andrew L. Tusion, Jari Vaario, Gilles Venturini, Hans-Michael Voigt, Roger L. Wainwright, D. Eric Walters, James F. Whidborne, Steward W. Wilson, Xin Yao, and Xiaodong Yin.

The editor also wants to acknowledge Elizabeth Heap-Talvela for her kind proofreading of the manuscript of this bibliography.



# Chapter 2

## Introduction

The table 2.1 gives the queries that have been used to extract this bibliography. The query system as well as the indexing tools used to compile this report from the BiBTeX-database [7] have been implemented by the author mainly as sets of simple `awk` and `gawk` programs [8, 9].

<i>string</i>	<i>field</i>	<i>class</i>
<code>robot</code>	<code>ANNOTE</code>	Robotics
<code>robot</code>	<code>TITLE</code>	Robotics
<code>Robot</code>	<code>TITLE</code>	Robotics

Table 2.1: Queries used to extract this subbibliography from the main database.



# Chapter 3

## Statistical summaries

This chapter gives some general statistical summaries of genetic algorithms in robotics literature. More detailed indexes can be found in the next chapter.

References to each class (c.f table 2.1) are listed below:

- **Robotics** 433 references ([10]-[442])

Observe that each reference is included (by the computer) only to one of the above classes (see the queries for classification in table 2.1; query order gives priority for classes).

### 3.1 Publication type

This bibliography contains published contributions including reports and patents. All unpublished manuscripts have been omitted unless accepted for publication. In addition theses, PhD, MSc etc., are also included whether or not published somewhere.

Table 3.1 gives the distribution of publication type of the whole bibliography. Observe that the number of journal articles may also include articles published or to be published in unknown forums.

<i>type</i>	<i>number of items</i>
book	1
part of a collection	12
journal article	71
proceedings article	315
report	23
PhD thesis	8
MSc thesis	3
<i>total</i>	433

Table 3.1: Distribution of publication type.

### 3.2 Annual distribution

Table 3.2 gives the number of genetic algorithms in robotics papers published annually. The annual distribution is also shown in fig. 3.1. The average annual growth of GA papers has been approximately 40 % during almost the last twenty years.

<i>year</i>	<i>items</i>	<i>year</i>	<i>items</i>
1988	2	1989	4
1990	13	1991	14
1992	42	1993	56
1994	72	1995	90
1996	93	1997	43
1998	4		
<i>total</i>			433

Table 3.2: Annual distribution of contributions.

### 3.3 Classification

Every bibliography item has been given at least one describing keyword or classification by the editor of this bibliography. Keywords occurring most are shown in table 3.3.

robotics	290
control	71
neural networks	40
genetic programming	36
robots	27
mobile robots	24
machine learning	21
robot	16
path planning	15
scheduling	14
fuzzy systems	14
planning	12
image processing	12
motion planning	10
classifier systems	10
others	852

Table 3.3: The most popular subjects.

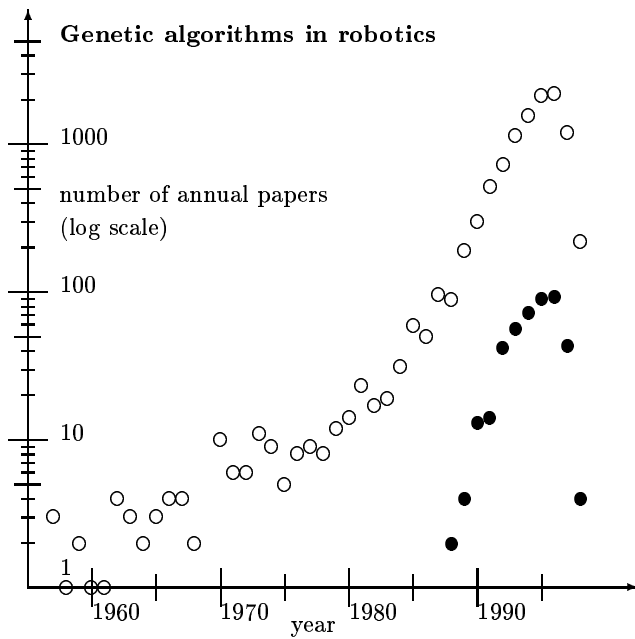


Figure 3.1: The number of papers applying **genetic algorithms in robotics** (●) ○ = total GA papers. Observe that the last two years are most incomplete in the database.

### 3.4 Authors

Table 3.4 gives the most productive authors.

total number of authors	559
Fukuda, Toshio	38
Harvey, Inman	22
Shibata, Takanori	21
Husbands, Philip	20
Cliff, David T.	19
Dorigo, Marco	12
Ahuactzin, Juan-Manuel	11
Bessière, Pierre	11
Zalzala, A. M. S.	11
Mazer, Emmanuel	10
Talbi, El-Ghazali	10
2 authors	9
4 authors	8
4 authors	7
6 authors	6
7 authors	5
9 authors	4
27 authors	3
63 authors	2
425 authors	1

Table 3.4: The most productive genetic algorithms in robotics authors.

### 3.5 Geographical distribution

The following table gives the geographical distribution of authors, when the country of the author was known. Over 80% of the references of the main database are classified by country.

<i>country</i>	<i>abs</i>	<i>%</i>
<i>Total</i>	433	100.00
Japan	106	24.48
United States	77	17.78
United Kingdom	57	13.16
France	30	6.93
Unknown country	16	3.70
Germany (incl. DDR)	14	3.23
Italy	14	3.23
China (incl. Hong Kong)	12	2.77
Finland	12	2.77
Israel	10	2.31
South Korea	9	2.08
Taiwan R.o.C.	8	1.85
Belgium	7	1.62
Australia	6	1.39
Poland	5	1.15
Sweden	5	1.15
Canada	4	0.92
Denmark	4	0.92
Greece	4	0.92
Switzerland	4	0.92
Czech Republic	3	0.69
Singapore	3	0.69
Yugoslavia	3	0.69
Austria	2	0.46
Mexico	2	0.46
Spain	2	0.46
Turkey	2	0.46
Bulgaria	1	0.23
India	1	0.23
Romania	1	0.23
Slovenia	1	0.23
Thailand	1	0.23

Table 3.5: The geographical distribution of the authors.

## **3.6 Conclusions and future**

The editor believes that this bibliography contains references to most genetic algorithms in robotics contributions upto and including the year 1998 and the editor hopes that this bibliography could give some help to those who are working or planning to work in this rapidly growing area of genetic algorithms.

# Chapter 4

## Indexes

### 4.1 Books

The following list contains all items classified as books.

Genetic Algorithms and Robotics: A heuristic strategy for optimization, [338]

### 4.2 Journal articles

The following list contains the references to every journal article included in this bibliography. The list is arranged in alphabetical order by the name of the journal.

Adaptive Behavior, [86, 237]  
Advanced Technology for Developers, [414]  
Artif. Intell. Eng. (UK), [218, 233]  
Artificial Intelligence, [119]  
Artificial Life, [83, 147, 197]  
BioSystems, [351]  
Comput. Ind. Eng. (UK), [229]  
Control Engineering Practice, [90]  
IEE Colloq. Dig., [262]  
IEE Conf. Publ. ETSI konferenssi, [265]  
IEEE Transactions on Evolutionary Computation, [301]  
IEEE Transactions on Industrial Electronics, [244]  
IEEE Transactions on Systems, Man, and Cybernetics, [258, 264, 270, 278, 324, 325, 348]  
IEICE Transactions, [435]  
IEICE Transactions on Information and Systems, [408]  
Information Sciences, [311]  
International Journal of Vehicle Design, [290]  
J. Intell. Robot. Syst., Theory Appl. (Netherlands), [246]  
J. Jpn. Soc. Precision Eng. (Japan), [308]

J. Robot. Syst. (USA), [99, 259, 296, 303, 304]  
Journal of Computing in CivilEngineering, [309]  
Journal of Guidance, Control, and Dynamics, [168]  
Journal of Korean Institute of Telematics and Electronics, [96]  
Journal of Robotics Society of Japan, [196]  
JSME Int. J. C, Dyn. Control Robot. Des. Manuf. (Japan), [173]  
Kikai Gijutsu Kenkyusho Shoho, [425]  
Konstruktion, [260]  
Machine Learning, [167]  
Mech. Mach. Theory, [235]  
Mechatronics, [280]  
Nippon Kikai Gakkai Ronbunshu C Hen, [155, 175, 220, 234, 367, 393]  
Robotersysteme, [399]  
Robotica, [132, 307, 323]  
Robotica (UK), [245]  
Robotics and Autonomous Systems, [124, 139, 144, 169, 216, 231, 247, 274, 279]  
Telematics and Informatics, [74]  
Teleoperators and virtual environments, [255]  
Trans. Inst. Electr. Eng. Jpn. C (Japan), [291]  
Trans. Inst. Syst. Control Inf. Eng. (Japan), [298, 319]  
Transactions of the Society of Instrument and Control Engineers (Japan), [84, 113]  
total 71 articles in 40 series

### 4.3 Theses

The following two lists contain theses, first PhD theses and then Master's etc. theses, arranged in alphabetical order by the name of the school.

### 4.3.1 PhD theses

Carnegie Mellon University, [87]  
Ecole Normale Supérieure de Lyon, [106]  
Imperial College for Science, [335]  
Institut Imag, [63]  
Oxford University, [145]  
Universidad Politécnica de Madrid, [82]  
University of Alabama, [394]  
University of Dortmund, [322]

total 8 thesis in 8 schools

### 4.3.2 Master's theses

This list includes also “Diplomarbeit”, “Tech. Lic. Theses”, etc.

Conservatoire National des Artes et Metiers Centre Regional Associe de Grenoble, [332]  
Monash University, [211]  
Naval Postgraduate School, [369]

total 3 thesis in 3 schools

## 4.4 Report series

The following list contains references to all papers published as technical reports. The list is arranged in alphabetical order by the name of the institute.

Aarhus University, [64]  
Army Strategic Defense Command, [350]  
International Computer Science Institute (ICSI), [346]  
National Research Council (C. N. R.), [150, 184, 236]  
Politecnico di Milano, [344, 42]  
Swiss Federal Institute of Technology at Lausanne, [134]  
University of Dortmund, [198, 202]  
University of North Carolina at Charlotte, [406]  
University of Sussex, [75, 441, 376, 377, 378, 379, 380, 383, 391]  
University of Vaasa, [55]  
Université Libre de Bruxelles, [105]

total 23 reports in 11 institutes

## 4.5 Patents

The following list contains the names of the patents of genetic algorithms in robotics. The list is arranged in alphabetical order by the name of the patent.

- none



## 4.6 Authors

The following list contains all genetic algorithms in robotics authors and references to their known contributions.

Abbott, R. J.,	[100, 255]	Barnes, D. P.,	[88]	Cheng, M.-Y.,	[303]
Abe, Tamotsu,	[92, 115, 156, 187, 195, 200, 247, 311]	Barrett, David,	[437]	Chiu, Yung-Feng,	[39]
Abhary, K.,	[30]	Bartscht, E.,	[33]	Cho, Hyun Chan,	[96]
Abu-Alola, A. H.,	[62]	Beer, Randall D.,	[216]	Cho, Sung-Bae,	[272]
Adams, William,	[205]	Bennett III, Forest H.,	[288]	Chongistitvatana, P.,	[26]
Agui, Takeshi,	[408]	Bersano-Begey, Tommaso F.,	[242]	Christiansen, Alan D.,	[165, 27, 323]
Aguirre, A. H.,	[165]	Bessière, Pierre,	[160, 329, 416, 417, 418, 419, 420, 421, 422, 423, 424]	Cleghorn, T. F.,	[327]
Aguirre, Arturo Hernández,	[323]	Bikdash, M.,	[296]	Cliff, Dave,	[231]
Ahuactzin, Juan-Manuel,	[63, 160, 416, 417, 418, 419, 420, 421, 422, 423, 424]	Biondi, Joëlle,	[146]	Cliff, David T.,	[75, 107, 139, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391]
Akbarzadeh-T., M.-R.,	[190, 273]	Blume, Christian,	[102, 370]	Cliff, David,	[262]
Alander, Jarmo T.,	[10, 58, 59, 433, 55, 60, 57]	Bonarini, Andrea,	[330]	Cobb, Helen G.,	[371]
Allaoui, C.,	[186]	Boone, G.,	[86]	Coello Coello, Carlos A.,	[165, 27, 323]
Anderson, Brian,	[403, 404, 405]	Both, Hans-Heinrich,	[434]	Cole, Jeffrey,	[263]
Ankenbrandt, Carol Ann,	[41]	Boudreau, R.,	[259]	Collard, Philippe,	[232]
Anlagan, O.,	[37]	Bradshaw, A.,	[103]	Colombetti, Marco,	[119, 346, 347]
Ansari, Nirwan,	[326]	Braunstingl, R.,	[127, 164]	Cook, Diane J.,	[333]
Arai, Fumihito,	[69, 440, 354, 355, 356, 357]	Bressgott, W.,	[33]	Czarniecki, C.,	[140]
Arakawa, Takemasa,	[206, 275, 284, 321]	Brevart, V.,	[128]	Czarniecki, C.,	[125]
Arakawa, T.,	[312]	Brillowski, K.,	[260]	Daida, Jason M.,	[242]
Arentoft, Peter Rolann,	[64]	Brooks, Rodney A.,	[331]	Dain, Robert A.,	[292]
Arkin, R. C.,	[86]	Browne, David,	[211]	Davidor, Yuval,	[334, 335, 336, 337, 338, 339, 340, 341, 342]
Ashiru, I.,	[125, 140]	Bruce, Wilker Shane,	[289]	Degawa, Sadao,	[174]
Ashlock, Dan,	[207]	Buckles, Bill P.,	[41]	Delchambre, A.,	[43]
Aspragathos, N. A.,	[235]	Bull, Lawrence,	[129, 212]	Didier, K.,	[343]
Aspragathos, Nikos A.,	[208, 307]	Bullock, G. N.,	[52]	Dimou, P.,	[118]
Atmar, J. Wirt,	[350]	Burdick, Joel W.,	[170]	Doan, Chau M.,	[242]
Aydin, K. K.,	[126]	Campbell, M. L.,	[100, 255]	Dobnikar, Andrej,	[133]
Baba, N.,	[101]	Chan, F. T. S.,	[30]	Dorigo, Marco,	[105, 111, 119, 167, 266, 278, 344, 345, 346, 347, 42, 348]
Baba, Norio,	[65]	Chan, K. K.,	[98]	Drabe, T.,	[33]
Baek, Seung-Min,	[314]	Chang, K. K.,	[431]	Dubowsky, Steven,	[263]
Baffes, Paul T.,	[327, 328]	Chatroux, Thierry,	[332, 422, 423]	Duleba, I.,	[104]
Balakrishnan, Karthik,	[210, 257, 286]	Chedmail, P.,	[213, 261]	Durantez, M.,	[228]
Baluja, Shumeet,	[258]	Chen, Chin Hsing,	[172, 226, 269]	Edwards, A. D.,	[27]
Banzhaf, Wolfgang,	[198, 202, 204, 237, 238, 287]	Chen, I-Ming,	[170]	Emmanuel, T.,	[177, 185]
		Chen, Mingwu,	[130, 304]	Enns, Russell,	[168]
		Chen, Peng,	[435, 308]		

Erbudak, M.,	[37]	Gomi, T.,	[72]	Huang, Weizhen,	[254]
Erkmen, A. M.,	[37]	Gopalan, Vijayarangan,	[296]	Husbands, Phil,	[262]
Espenschied, Kenneth S.,	[216]	Gorges-Schleuter, Martina,	[370]	Husbands, Philip,	[75, 107, 139, 221, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391]
Fagg, Andrew H.,	[401]	Gorrini, V.,	[105, 266]	Huser, Joerg,	[188]
Falkenauer, Emanuel,	[43, 44]	Gough, N. E.,	[62]	Hwang, Hee-Soo,	[163, 430]
Farritor, Shane,	[263]	Grefenstette, John J.,	[205, 371]	Iba, Hitoshi,	[223, 267, 297]
Feng, S.,	[400]	Grocholewska-Czurylo, A.,	[29]	Ichikawa, Shingo,	[171]
Fennel, Theron Randy,	[16]	Grosenbaugh, Mark,	[437]	Ichikawa, S.,	[76, 196]
Floreano, Dario,	[110, 134, 181, 124, 264, 293]	Gruau, Frédéric C.,	[106]	Imecs, Maria,	[142]
Fogarty, Terence C.,	[129, 180, 212]	Hajek, M.,	[17]	Inaba, A.,	[298]
Fogel, David B.,	[349, 350, 351]	Hall, Ernest L.,	[54]	Inaba, Makoto,	[352]
Fogel, Lawrence J.,	[349, 350]	Hallam, J.,	[302, 320]	Inaba, M.,	[77, 173]
Ford, Gary P.,	[45]	Halme, Aarne,	[137, 161, 192]	Inoue, Hrochika,	[234]
Fraser, A. P.,	[68, 71, 88]	Hamada, Kazuro,	[298]	Inuzuka, N.,	[31]
Fu, Li-Chen,	[39]	Hamam, Y. M.,	[153]	Iritani, G.,	[69, 159]
Fujimoto, Hideo,	[21, 36]	Han, Woong-Gie,	[314]	Ishiguro, Akio,	[76, 141, 171, 194, 196, 222]
Fujimoto, S.,	[243]	Handa, H.,	[101]	Ishiguro, A.,	[299]
Fujimoto, Shinsaku,	[155]	Handley, Simon G.,	[121, 372, 373, 374, 375]	Isshiki, Yukihiko,	[97]
Fukuda, T.,	[173, 191, 275, 294]	Handroos, H.,	[310]	Ito, H.,	[219]
Fukuda, Toshio,	[69, 77, 90, 113, 148, 159, 175, 193, 206, 276, 279, 281, 283, 284, 295, 312, 315, 318, 321, 352, 440, 353, 354, 355, 356, 357, 358, 46, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368]	Hanedada, H.,	[319]	Ito, Takuya,	[223]
Fukui, T.,	[319]	Hao, Hong,	[189]	Itoh, H.,	[31]
Furuhashi, Takeshi,	[120, 215, 438, 316]	Harashima, Fumio,	[131, 166, 291]	Itoh, K.,	[31]
Furuya, Tatsumi,	[219]	Hart, John,	[138]	Iwahashi, Kazuhiko,	[21]
Gacogne, L.,	[70]	Harvey, Inman,	[75, 107, 139, 262, 441, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 442, 390, 391]	Jakob, Wilfried,	[102]
Gadek-Madeja, H.,	[15]	Hasegawa, Yasuhisa,	[295]	Jakob, Willfried,	[370]
Gallagher, John C.,	[216]	Hashimoto, Hideki,	[131, 166, 291]	Jakubik, P.,	[161]
Galt, S.,	[265]	Haupt, R.,	[239]	Jamshidi, M.,	[190]
Garis, Hugo de,	[432]	Hein, C.,	[74]	Jamshidi, Mohammad,	[273]
Gaspart, P.,	[44]	Higuchi, T.,	[228]	Jensen, Kaj Aage,	[64]
Gaussier, Philippe,	[169]	Himler, Allen,	[47]	Jeon, Hong Tae,	[96]
Ge, S. S.,	[244]	Homaifar, Abdollah,	[296]	Jerbic, B.,	[285]
Gen, Mitsuo,	[229]	Honavar, Vasant,	[210, 257, 286]	Jin, Yaochu,	[325]
Ghanea-Hercock, R.,	[71]	Hondo, Naohiro,	[267]	Jiri, Handlir,	[225]
Gibbs, Jonathan,	[224]	Hong, Robert,	[414]	Jo, D.,	[343]
Gill, Mark A. C.,	[136]	Horiguchi, T.,	[51]	Jones, Albert,	[40]
Goldberg, David E.,	[410]	Horiuchi, Eiichi,	[425]	Jones, D. I.,	[91, 415]
Goldberg, Yaron,	[339]	Hou, Edwin S. H.,	[326]	Joo, Y. H.,	[163, 430]
Goldfish, Andrew,	[217]	Hsieh, Ching C.,	[290]	Kakazu, Y.,	[227]
		Hsu, Jane Yung-jen,	[214]		
		Huang, Han-Pang,	[252]		

Kakazu, Yukinori, 392, 48, 393, 49, 407]	[180, 267,	Krenz, W. C.,	[100, 255]	Masayuki, Inaba,	[234]
Kang, Daehee,	[131, 166]	Krisch, S.,	[102]	Matarić, Maja,	[231]
Kang, D.,	[291]	Kuboshiki, Satoru,	[171]	Matsunaga, Y.,	[250]
Karcz-Duleba, I.,	[104]	Kubota, Naoyuki, 276, 279, 281, 318, 321]	[65, 175, 275,	Mazer, Emmanuel, 418, 419, 420, 421, 422, 423, 424]	[160, 416, 417,
Katic, Dusko,	[324]	Kubota, N.,	[283]	McClain, Jeffrey J.,	[242]
Kawakami, Takashi,	[48, 393]	Kuc, Tae-Yong,	[314]	McDonnell, John R., 404, 405]	[402, 403,
Kawakami, T.,	[227]	Kühn, W.,	[399]	McNutt, Greg,	[305]
Kawata, K.,	[117]	Kumbla, Kishan K.,	[273]	Meeden, Lisa A.,	[270]
Kawauchi, Y.,	[77, 173]	Kumbla, K.,	[190]	Mehdi, Q.,	[62]
Kawauchi, Yoshio,	[352]	Kuniyoshi, Y.,	[228]	Meng, Qing-chun,	[153]
Kazefooni, M.,	[30]	Kuruma, Toshiji,	[89]	Mester, G.,	[135, 179]
Kelemen, Arpad,	[142]	Kwok, D. P.,	[78, 400]	Meyer, Jean-Arcady,	[144]
Keymeulen, D.,	[228]	Lee, C. S. George,	[11, 20]	Meystel, A.,	[74]
Khalid, M.,	[32]	Lee, C. S. G.,	[34]	Michalewicz, Zbigniew,	[313]
Khoogar, Ahmad R.,	[394, 410, 411]	Lee, Chi-Ho,	[268]	Michalewicz, Zbigniew, 406]	[73, 108, 301,
Khosla, Pradeep K.,	[395]	Lee, Jiann Der,	[172, 226, 269]	Michel, Olivier,	[146, 232, 306]
Kido, T.,	[436]	Lee, M. A.,	[79]	Michel, O.,	[151]
Kim, G. H.,	[34]	Lee, Seung-Ik,	[272]	Miglino, G.,	[110]
Kim, Gyoung H.,	[11, 20]	Lee, T. H.,	[244]	Miglino, Orazio,	[83, 147]
Kim, H. K.,	[430]	Lee, Wei-Ming,	[252]	Mikami, Sadayoshi,	[180, 392]
Kim, Jin-Oh,	[395]	Lee, Wei-Po,	[302, 320]	Minagawa, Masaaki,	[48, 49, 407]
Kim, Jinwoo,	[18]	Lehtinen, Hannu,	[56]	Ming, Lei,	[233]
Kim, Jong-Hwan, 268, 300]	[248, 251,	Leitch, Donald Dewar,	[80, 145, 176]	Mitsumoto, Naoki,	[148]
Kim, Jong-Kwan,	[143, 157]	Leung, C. H.,	[66]	Miyagawa, K.,	[191]
Kim, K. B.,	[163]	Leung, T. P.,	[400]	Miyata, Yujiro,	[215]
Kim, Sinn,	[248]	Lewis, M. Anthony,	[401]	M.McCrea, Anna,	[309]
Kim, Yong Ho,	[96]	Li, G.,	[317]	Mohamed, Samir S.,	[412]
Kimura, Masayuki,	[223]	Liegeois, A.,	[177, 185]	Mohammadian, M.,	[12, 149]
Kis, Zoltan,	[142]	Lin, C.-S.,	[303]	Mohri, Akira,	[97]
Kocaoglan, E.,	[126]	Lin, Fang-Chang,	[214]	Mondada, Francesco, 181, 124, 264]	[110, 134,
Kodjabachian, Jérôme,	[144]	Lin, Hoi-Shan,	[73, 108, 406]	Mori, Hiroyuki,	[50, 51]
Kohno, Tadashi,	[366]	Logan, Brian,	[230]	Moriwaki, K.,	[31]
Koide, Seiji,	[174]	Lopez, Luis R.,	[413]	Morrell, Darryl,	[168]
Komata, Y.,	[312]	Lott, Christopher G.,	[81]	Morris, A. S.,	[245]
Konaka, K.,	[228]	Louis, Sushil John,	[317]	Mrad, Fuad,	[36]
Kondo, K.,	[117]	Luk, B. L.,	[265]	Mujika, J.,	[164]
Kondo, Toshiyuki,	[141, 222]	Lund, Henrik Hautop, 197, 302, 320]	[147, 178,	Muraoka, S.,	[117]
Konishi, K.,	[183]	Luong, L. H. S.,	[30]	Murase, K.,	[250]
Kosuge, Kazuhiro,	[357]	Lybanon, M.,	[41]	Musgrove, P. B.,	[62]
Koza, John R., 397, 398]	[123, 396,	Magdalena, Luis,	[82]		
		Mantere, Timo,	[10]		

Nafasi, K.,	[83]	Parisi, D.,	[150, 184]	Rudas, I.,	[135]
Nagahashi, Hiroshi,	[408]	Parker, Gary B.,	[369]	Rush, J. R.,	[68, 88]
Nagami, H.,	[182]	Parker, Joey K.,	[410, 411]	Rusu, Calin,	[142]
Nagao, Tomoharu,	[408]	Parmee, Ian C.,	[52]	Rutman, Nathan,	[263]
Nagasaka, Kenichirou,	[234]	Patel, Mukesh J.,	[111]	Ryu, H.,	[22]
Nagata, T.,	[183]	Pearce, M.,	[86]	Sagiroglu, S.,	[132]
Nagaya, E.,	[22]	Pellazar, Miles B.,	[85]	Saitoh, F.,	[28]
Nagy, R. N.,	[103]	Peters, Liliane,	[188]	Sakane, Shigeyuki,	[89]
Naito, T.,	[250]	Petry, Frederick E.,	[41]	Sakano, S.,	[182]
Nakagama, Hayato,	[109]	Peuffelhox, Renaud de,	[53]	Sanderson, A. C.,	[13]
Nakanishi, M.,	[436]	Pham, D. T.,	[132]	Sangolola, Bamidele A.,	[122]
Nakano, Kaoru,	[109]	Pierreval, Henri,	[35]	Sasaki, Y.,	[308]
Nakaoka, N.,	[120]	Pin, F. G.,	[403]	Sato, Tomomasa,	[89]
Natowicz, René,	[409, 426, 427]	Pinchard, O.,	[185]	Schnepf, Uwe,	[344, 345, 348]
Navon, Ronie,	[309]	Pipe, Anthony G.,	[249]	Schönberg, T.,	[161, 192]
Nearchou, A. C.,	[235]	Pletl, S.,	[135]	Schultz, Alan C.,	[61, 205]
Nearchou, Andreas C.,	[307]	Poli, Riccardo,	[230]	Sebaaly, Milad,	[36]
Noguchi, N.,	[84]	Polvichai, J.,	[26]	Seki, H.,	[31]
Nolfi, S.,	[110]	Pözlleitner, W.,	[38]	Seng, Teo Lian,	[32]
Nolfi, Stefano,	[147, 150,	Porter, B.,	[186, 199,	Seward, D. W.,	[103]
184, 236, 293]		201, 203, 209, 256]			
Nordahl, Mats G.,	[241]	Porter, Brian,	[122, 412]	Sheng, Fang,	[78]
Nordin, Peter,	[198, 202,	Probert, Penelope,	[80, 176]	Sheu, Chi-Haur,	[246]
204, 237, 238, 287, 322]					
Nose, and Matsuo,	[200]	Proychev, T. Ph,	[251]	Shibata, Takanori,	[90, 92, 113,
Nose, Matsuo,	[92, 115, 156,	Pun, F.,	[30]	115, 156, 187, 195, 200, 247, 311,	
187, 195, 247, 311]				353, 357, 358, 46, 360, 361, 363,	
		Pyylampi, Tero,	[10]	364, 366, 367, 368]	
Odagiri, R.,	[250]	Quinn, Roger D.,	[216]	Shim, Hyun-Sik,	[143, 157]
Ogawa, Akio,	[148]	Rabelo, Luis,	[40]	Shimijima, K.,	[294]
Oh, Kong Ping,	[290]	Ram, Ashwin,	[86]	Shimojima, Joji,	[315]
Ohsaka, Kazumasa,	[155]	Ramstein, E.,	[213, 261]	Shimojima, Koji,	[148, 193,
Ohsaki, K.,	[243]	Rana, A. S.,	[154]	276, 279, 281, 283]	
Ohwi, J.,	[152]	Ravichandran, B.,	[13]	Shuzi, Yang,	[218, 233]
Okuma, Shigeru,	[298]	Reynolds, C. W.,	[112]	Sidla, O.,	[38]
Oliver, James,	[207]	Reynolds, Craig W.,	[67]	Sim, Kwee Bo,	[96]
Ollero, A.,	[127]	Rice, James P.,	[396]	Siwak, P.,	[29]
Olmer, Markus,	[238, 287]	Richter, R.,	[439]	Sluzek, A.,	[25]
Omata, Toru,	[89]	Rodriguez, A. O.,	[23]	Smith, M. H.,	[79]
Ošmera, Pavel,	[24, 271]	Ronge, Andreas,	[241]	Smith, Robert Elliot,	[413]
Pack, D.,	[239]	Ross, Steven J.,	[242]	Solano, J.,	[91, 415]
Page, Ward C.,	[402, 403,	Roston, Gerald Paul,	[87]	Solidum, Alan,	[401]
404, 405]				Stone, J. V.,	[114]
Pajor, G.,	[135]	Routen, Tom,	[140]	Stonier, Russel James,	[12, 149, 158]
Paris, J. L.,	[35]	Rouvinen, A.,	[310]	Suarez, A. R.,	[23]

Sugiyama, T.,	[436]	Tzafestas, S.,	[118]	Xi, Yu-Geng,	[116, 274]
Sullivan, Charles. C. W.,	[249]	Uchihashi, Shingo,	[109]	Xiao, Jing,	[73, 108, 301, 313, 406]
Sun, Shudong,	[245]	Uchikawa, Yoshiki,	[76, 141, 171, 194, 196, 215, 222, 438]	Xu, H. Y.,	[95]
Surmann, Hartmut,	[188]	Uchikawa, Y.,	[120]	Yamada, M.,	[31]
Suzuki, Shuntaro,	[174]	Ueyama, Tsuyoshi,	[69, 440, 354, 355, 356, 359, 362, 365]	Yamafuji, K.,	[152, 191]
Suzuki, T.,	[298]	Ulribe, J. P.,	[164]	Yamamoto, Hidehiko,	[220]
Szalas, A.,	[19]	Ulyanov, S.V.,	[152, 191]	Yamamoto, Motoji,	[97]
Tagawa, K.,	[319]	Umemoto, Naoki,	[109]	Yamazaki, K.,	[117]
Takeda, K.,	[50]	Underbrink, Jr., Al J.,	[16]	Yang, Jung-Min,	[300]
Talbi, El-Ghazali,	[160, 416, 417, 418, 419, 420, 421, 422, 423, 424]	Unver, O.,	[37]	Yasuda, Kazuhiko,	[21]
Tanaka, T.,	[191]	Vainio, Mika,	[137, 161, 192]	Yih, Yuehwern,	[40]
Taneja, Mukesh,	[14]	Venturini, Gilles,	[409, 426, 427, 428, 429]	Yoneda, Takao,	[49]
Tani, Kazuo,	[425]	Visser, A.,	[399]	Yoshikawa, Tomohiro,	[438]
Tanie, Kazuo,	[92, 115, 156, 187, 195, 247, 311, 360, 368]	Viswanadham, N.,	[14]	Young, Kuu-Young,	[246]
Tanifuji, M.,	[250]	Vranjes, B.,	[285]	Yun, Wei-Min,	[116, 274]
Tanigawa, Yuao,	[21]	Vukobratovic, Miomir,	[324]	Yusof, R.,	[32]
Tano, Hiroaki,	[392]	Vukovich, G.,	[95]	Zadeh, N. N.,	[122, 199, 201, 209, 256]
Taylor, C.,	[83]	Wala, K.,	[15]	Zagorianos, A.,	[118]
Taylor, Stewart N.,	[93]	Walker, John,	[207]	Zailin, Guan,	[233]
Terao, H.,	[84]	Wang, Lui,	[327, 328]	Zailin, Ming Guan,	[218]
Toenshoff, H. K.,	[260]	Wang, Q.,	[240, 277, 280, 282]	Zalzala, A. M. S.,	[66, 98, 130, 154, 240, 245, 277, 280, 282, 304, 431]
Tokumaru, H.,	[117]	Watanabe, Keigo,	[253]	Zeigler, Bernard P.,	[18]
Toogood, Roger,	[189]	Watanabe, T.,	[117]	Zha, Hong-Bin,	[183]
Topalov, A. V.,	[251]	Watanabe, Yuji,	[141, 194, 222]	Zhang, Jun,	[45]
Toussaint, G.,	[239]	Watanabe, T.,	[94]	Zhang, Lixin,	[301]
Toyota, Toshio,	[435, 308]	Wechsler, Harry,	[47]	Zhao, L.,	[229]
Triantafyllou, Michael,	[437]	Wei, Ho Kuen,	[25]	Zhao, Min,	[99, 326]
Trojanowski, Krzysztof,	[301]	Willeke, Thomas,	[162]	Zhu, G.,	[244]
Trojanowski, K.,	[313]	Williams, Jr., George P. W.,	[16]	Zhuang, Hanqi,	[254]
Tsai, Jay-Shinn,	[40]	Wong, Chi,	[189]	Zomaya, Albert Y.,	[136]
Tsujimura, Yasuhiro,	[229]	Woo, Kwang-Bang,	[163, 430]	Zrehen, Stphane,	[169]
Tu, James Zhen,	[54]	Wu, Jie,	[254]		
Tunstel, E.,	[190, 273]	Wu, Kun Hsiang,	[172, 226, 269]		
Turkkan, N.,	[259]				total 433 articles by 559 different authors

## 4.7 Subject index

All subject keywords of the papers given by the editor of this bibliography are shown next.

/fuzzy,	[190]	1D,	[29]	robotics,	[209]
A*,	[47]	classifier implementation		robots,	[93, 178, 179,
acoustics,	[435]	AGIL,	[429]	231, 241]	
aerospace,	[414]	classifier systems,	[345, 42, 348,	robust,	[157]
agents,	[212, 31]	393, 64, 129, 212]		truck backing,	[12]
agriculture		distributed,	[167]	walking,	[206, 312]
vehicles,	[84]	fuzzy,	[142, 152]	control systems,	[360]
AI,	[350, 359]	classifiers,	[346, 429]	controller	
ALECSYS,	[346, 42, 167]	co-evolution,	[241]	fuzzy,	[226]
analysing GA,	[433]	coding		controllers	
application,	[48]	DNA,	[316]	fuzzy,	[145, 201,
manufacturing,	[14]	comparison		209, 273, 296]	
artificial life,	[413]	backpropagation,	[132]	PID,	[203, 296]
assembly,	[298]	in control,	[145]	robot,	[186]
part feeders,	[27]	Levenberg-Marquardt,	[132]	crossover	
planning,	[36]	stochastic automata,	[101]	analogous,	[334]
welding,	[290]	computational geometry,	[48]	cutting	
assignment problems,	[15]	computer graphics		by a robot,	[311]
ASTRA,	[370]	graphs,	[23]	robotic,	[115]
autonomous		control,	[347, 330,	decision making,	[356, 359]
agents,	[119, 137, 161]	381, 392, 86, 144, 190]		decision problems,	[19]
guided vehicles,	[80]	adaptive,	[135, 32, 251,	discriminant function,	[54]
mobile robots,	[143]	325]		editorial,	[278]
robots,	[192]	architecture,	[71]	ei GA?,	[103]
autonomous robot,	[409, 426,	autonomous robots,	[180]	encoding,	[43]
427, 397, 398, 428, 429, 67]		classifier systems,	[167]	engineering	
AutonoMouse,	[347, 42, 119]	fuzzy,	[430, 79, 80,	aerospace,	[394]
autonomous,	[167]	82, 12, 434, 149, 164, 191, 199, 218,		construction,	[309]
bibliography		233, 32, 252, 256, 272, 438, 325]		mechanical,	[87]
special,	[55]	inverted pendulum,	[145]	power,	[50, 51]
bin-packing,	[48, 43]	Lyapunov,	[244]	structural,	[22]
CAD,	[395, 332, 87]	mobile robot,	[163, 204]	vehicle,	[84]
manipulators,	[260]	mobile robots,	[64]	evolution strategies,	[249, 439]
review in engineering,	[52]	motion,	[24, 437]	robotics,	[399]
calibration,	[58, 59]	neural,	[124, 257]	features,	[41]
robot,	[254]	PID,	[400, 78, 142]	fitness	
CEBOT,	[352]	robot,	[439]	fuzzy,	[363]
cellular automata		robot,	[122, 136,	FM screening,	[10]
		153, 198, 202, 203, 216, 237, 238,		FMS,	[40]
		240, 244, 251, 253, 265, 268, 270,		forest fires	
		273, 277, 305, 319, 322]			
		robot manipulators,	[325]		

simulated,	[64]	feature selection,	[38]	mobile robots	
fuzzy logic,	[41, 12, 90, 113, 127, 145, 163]	machine vision,	[211]	navigation,	[73, 301]
fuzzy rules,	[330, 120, 215]	reconstruction,	[25]	obstacle avoidance,	[120]
fuzzy sets,	[79, 95]	image processing?,	[28]	path planning,	[140]
fuzzy systems,	[360, 70, 434, 135, 158, 172, 176, 187, 188, 200, 247, 37]	immune network,	[76, 194]	walking,	[171]
fuzzy systems		immune networks,	[141, 171, 196]	mobile robots?,	[211]
control,	[430]	immune system,	[299]	motion planning,	[416, 417, 358, 419, 420, 98, 160, 304]
planning,	[368]	immune systems,	[148, 222]	kinematic,	[394]
GA*,	[230]	implementation		multi-arm robot,	[154]
games,	[436]	Borland C++ 3.1,	[274]	navigation,	[343, 59, 406, 131, 168]
generations		C++,	[433]	robot,	[188]
500,	[311]	transputer T800,	[370]	neural networks,	[432, 329, 376, 377, 378, 379, 380, 401, 360, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 408, 83, 106, 146, 184, 197, 236, 33]
genetic algorithms,	[10]	transputers,	[280]	neural networks	
genetic programming,	[372, 396, 397, 398, 373, 374, 375, 67, 68, 71, 81, 88, 93, 106, 123, 138, 162, 198, 202, 204, 26, 223, 224, 237, 238, 242, 267, 287, 288, 292, 297, 320, 322]	kinematics,	[410]	classification,	[324]
genetic programming		layout design,	[14, 30]	control,	[414, 312]
robotics,	[121, 217]	learning,	[428, 429]	design,	[268]
stack based,	[289]	line balancing,	[43]	fuzzy,	[269, 315]
genetics		machine learning,	[345, 346, 42, 333, 348, 61, 20, 142, 158, 198, 202, 205, 26, 225, 249, 267, 318]	hybrid,	[310]
bacterial,	[215]	machine learning		in control,	[258]
geophysics		fuzzy,	[120, 273]	incremental,	[270]
oceans,	[41]	multi-agent,	[297]	learning,	[219]
GLEAM,	[370]	scheduling,	[34]	synthesis,	[133]
graph matching,	[45]	machine vision,	[390, 391, 75, 107]	training,	[132]
graphs		machine vision,		optimization,	[18]
drawing,	[23]	maintenance		minimum path,	[96]
grinding,	[49]	diagnosis,	[435]	multiobjective,	[165, 323]
grouping,	[44]	manipulator design,	[339, 395]	Pareto,	[323]
hardware		manufacturing		parallel GA,	[329, 347, 370, 332, 160, 24, 35]
evalvable,	[228]	automobiles,	[290]	parallel GA?,	[276]
evolvable,	[250]	cells,	[35]	path planning,	[357, 367, 63, 99, 130, 153, 185, 246, 248, 275, 307]
evolving,	[231]	layout design,	[30]	path planning	
hybrid,	[24]	scheduling,	[37, 39]	mobile robot,	[131]
A*,	[230]	MAP,	[47]	mobile robots,	[84, 108]
fuzzy,	[193]	mazes,	[420, 101]	robot,	[314]
min-max,	[323]	meta GA,	[433]	pattern recognition,	[54, 13]
neural networks,	[139, 193]	mobile robot,	[127, 219]	PBGA,	[215]
simulated annealing,	[78]	control,	[250]		
image processing,	[45, 53, 62, 75, 13, 89, 107, 322, 10]	navigation,	[228]		
		mobile robotics?,	[289]		
		mobile robots,	[328, 349, 326, 357, 376, 377, 401, 430, 371, 375, 66, 101, 108, 121, 125, 129, 157, 160, 271]		

Petri nets,	[39]	robotics	path planning,	[327, 328, 402, 409, 426, 427, 411, 326, 403, 404, 418, 332, 421, 422, 423, 63, 95, 96, 177, 187, 189, 220, 225, 226, 235, 269, 271]	
planning,	[440, 353, 370, 46, 373, 374]	animats,	[144]	planning,	[370, 133, 227]
motion,	[125, 195, 200]	autonomous,	[390, 391, 77, 80, 86, 88, 110, 134, 148, 161, 180, 181, 232]	programming,	[223]
movements,	[138]	autonomous agents,	[151]	redundant,	[195, 200]
routes,	[85]	biped,	[206]	route planning,	[85]
trajectory,	[281]	cellular,	[359, 69, 159, 173]	scheduling,	[105]
population size		collision avoidance,	[65, 298]	sensing,	[62, 132, 166, 210]
100; 200,	[370]	configuration,	[126, 170]	simple,	[207]
8,	[311]	control,	[78, 91, 117, 118, 136, 142, 167, 186, 190, 201, 218, 221, 256, 257, 262, 273, 280, 296, 308, 317]	simulated mobile,	[241]
small,	[249]	control?,	[276]	synthesis,	[213]
printing		coordination,	[183]	trajectory control,	[412, 203]
FM screening,	[10]	design,	[165]	trajectory planning,	[334, 97, 102, 104, 239, 245, 279, 321]
prototyping,	[18]	hydraulic,	[310]	virtual,	[207]
PUMA robot,	[280]	intelligent,	[193]	vision,	[75, 89, 107]
regression		inverse kinematics,	[224]	walking,	[76, 82, 194, 196, 206, 284, 303]
symbolic,	[287]	learning,	[111, 119, 158]	wall-climbing,	[212]
review		legged,	[66]	welding,	[290]
Davidor,	[56]	locating,	[286]	robotics 7mobile,	[272]
robotics,	[57, 60, 351]	manipulator control,	[94]	robotics?,	[138, 313]
robot		manipulator design,	[260]	robots	
autonomous,	[81, 150, 184, 236]	manipulators,	[199, 324]	autonomous,	[414, 146, 192, 278]
biped,	[234]	mobile,	[343, 345, 369, 430, 58, 333, 348, 375, 425, 64, 70, 76, 87, 99, 112, 120, 123, 124, 130, 134, 137, 139, 141, 149, 152, 153, 158, 160, 163, 164, 166, 168, 177, 181, 185, 188, 191, 194, 196, 198, 202, 204, 215, 217, 222, 230, 238, 249, 252, 263, 267, 271, 286, 291, 292, 295, 297, 300, 304, 314, 320]	control,	[237]
control,	[150, 157, 184, 236]	modeling,	[155]	juggling,	[93]
hexapod,	[216]	morphology,	[302]	kinematics,	[182]
manipulator,	[251]	motion,	[282]	location control,	[143]
manipulators,	[135]	motion planning,	[368, 424, 92, 115, 116, 156, 247, 274, 283, 311]	manipulator,	[323]
manufacturing,	[175]	multi,	[356, 425]	manipulators,	[243]
mobile,	[347, 83, 147, 197, 258]	multi-,	[214]	mechanics design,	[261]
path planning,	[172]	multi-arm,	[154]	mobile,	[372, 125, 129, 131, 145, 171, 218, 233, 264]
walking,	[234]	multiple,	[245, 259]	path planning,	[56, 248, 307]
robot control,	[408]	navigation,	[393]	trajectory planning,	[74]
robot programming,	[396]	palletizing,	[174]	walking,	[216, 265, 312]
robot societies,	[137, 192]	path eplanning,	[335]	route planning,	[230]
robotics,	[327, 394, 410, 336, 337, 338, 339, 344, 350, 402, 432, 329, 331, 340, 326, 341, 342, 346, 347, 352, 353, 354, 355, 378, 379, 380, 395, 399, 401, 403, 405, 407, 416, 417, 59, 330, 332, 358, 360, 361, 362, 363, 364, 365, 366, 367, 373, 374, 381, 381, 382, 383, 384, 385, 386, 387, 388, 389, 392, 400, 406, 413, 415, 419, 420, 421, 422, 423, 431, 61, 68, 71, 72, 79, 90, 98, 101, 103, 106, 108, 109, 113, 114, 128, 145, 162, 169, 176, 205, 208, 229, 242, 246, 275, 281, 285, 287, 288, 293, 294, 299, 306, 309, 315, 316, 318]			routing	
				vehicle,	[349, 84, 85]
				rule based systems,	[70, 79, 21, 209]



fuzzy,	[17]	robots,	[266]	soccer	
rules,	[49]	screening		robot,	[314]
SAGA,	[441, 442]	frequency modulated,	[10]	task planning,	[352, 407]
scheduling,	[43, 40, 16,	self-organization,	[109]	trajectory planning,	[415, 431,
319]		sensor		206, 283]	
FMS,	[20, 21, 37, 39]	location,	[132]	VEGA,	[281]
heterogeneous machines,	[34]	sensing,	[166]	vehicles	
job shop,	[11]	signal processing,	[47, 322]	underwater,	[437]
robot,	[100, 255]	diagnosis,	[435]	Viterbi,	[168]
robotic operations,	[105]	simulation,	[400]	walking,	[392]

## 4.8 Annual index

The following table gives references to the contributions by the year of publishing.

1988,	[327, 328]	1995,	[124, 125, 126, 434, 127, 128, 129, 130, 131, 132, 133, 134, 20, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 435, 153, 154, 155, 156, 157, 158, 436, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 21, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 22, 184, 185, 186, 23, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 24, 55]
1989,	[334, 335, 394, 410]	1996,	[205, 25, 206, 207, 208, 209, 210, 211, 212, 213, 26, 27, 214, 28, 215, 216, 217, 29, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 30, 228, 229, 230, 231, 232, 233, 31, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 32, 250, 251, 252, 253, 254, 255, 256, 257, 258, 437, 259, 260, 261, 262, 33, 263, 264, 34, 265, 266, 267, 268, 269, 270, 271, 35, 272, 36, 273, 274, 275, 276, 277, 438, 278, 279, 280, 281, 282, 283]
1990,	[41, 336, 337, 338, 339, 344, 349, 350, 402, 409, 426, 427, 432]	1997,	[37, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 38, 309, 439, 310, 311, 312, 313, 314, 39, 315, 316, 317, 318, 319, 320, 321, 322]
1991,	[433, 329, 331, 340, 343, 345, 45, 372, 47, 48, 49, 411, 53, 54]	1998,	[10, 323, 324, 325]
1992,	[56, 326, 341, 342, 346, 347, 42, 43, 352, 440, 353, 354, 355, 356, 357, 369, 370, 441, 376, 377, 378, 379, 380, 395, 396, 397, 398, 399, 401, 403, 404, 405, 407, 50, 51, 414, 416, 417, 418, 428, 429, 430]		
1993,	[57, 58, 59, 60, 40, 330, 332, 333, 348, 44, 351, 358, 46, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 371, 373, 374, 375, 381, 382, 383, 384, 385, 386, 387, 388, 389, 442, 390, 391, 392, 393, 400, 406, 408, 52, 412, 413, 415, 419, 420, 421, 422, 423, 424, 425, 431]		
1994,	[61, 62, 63, 64, 65, 66, 67, 68, 69, 11, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 12, 84, 85, 86, 13, 87, 88, 89, 90, 91, 92, 14, 93, 15, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 16, 105, 106, 17, 107, 18, 108, 109, 110, 111, 112, 113, 114, 19, 115, 116, 117, 118, 119, 120, 121, 122, 123]		

## 4.9 Geographical index

The following table gives references to the contributions by country.

- Australia: [12, 136, 149, 158, 211, 30]
- Austria: [127, 38]
- Belgium: [432, 43, 44, 105, 119, 266, 278]
- Bulgaria: [251]
- Canada: [72, 95, 189, 259]
- China (incl. Hong Kong): [116, 153, 218, 229, 233, 245, 274, 325, 400, 78, 108, 256]
- Czech Republic: [24, 225, 271]
- Denmark: [64, 147, 178, 197]
- Finland: [433, 56, 57, 58, 59, 60, 137, 161, 192, 55, 310, 10]
- France: [409, 426, 427, 329, 53, 416, 417, 418, 428, 429, 332, 419, 420, 421, 422, 423, 424, 63, 70, 106, 144, 146, 160, 169, 177, 185, 213, 232, 35]
- Germany (incl. DDR): [370, 399, 102, 434, 188, 198, 202, 237, 238, 260, 33, 287, 439, 322]
- Greece: [118, 208, 235, 307]
- India: [14]
- Israel: [334, 335, 336, 337, 338, 339, 340, 341, 342, 309]
- Italy: [344, 345, 346, 347, 42, 348, 83, 110, 150, 167, 184, 236, 293]
- Japan: [48, 49, 352, 440, 353, 354, 355, 356, 357, 407, 50, 51, 358, 46, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 392, 393, 408, 425, 65, 69, 76, 77, 84, 89, 90, 92, 94, 97, 109, 113, 115, 117, 120, 131, 141, 148, 152, 435, 155, 156, 436, 159, 166, 21, 171, 173, 175, 180, 182, 183, 22, 187, 191, 193, 194, 195, 196, 200, 206, 28, 215, 219, 220, 222, 223, 227, 228, 31, 234, 243, 247, 250, 253, 267, 36, 275, 276, 438, 279, 281, 283, 284, 291, 294, 295, 297, 298, 299, 308, 311, 312, 315, 316, 318, 319, 321]
- Mexico: [415, 91]
- Poland: [15, 104, 19, 29, 313]
- Romania: [142]
- Singapore: [170, 25, 244]
- Slovenia: [133]
- South Korea: [430, 96, 157, 163, 248, 268, 272, 300, 314]
- Spain: [82, 164]
- Sweden: [204, 241]
- Switzerland: [124, 134, 181, 306]
- Taiwan R.o.C.: [172, 209, 214, 226, 246, 252, 269, 39]
- Thailand: [26]
- Turkey: [126, 37]
- United Kingdom: [441, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 442, 390, 391, 52, 412, 431, 62, 66, 75, 80, 98, 103, 107, 111, 114, 122, 125, 129, 130, 132, 139, 140, 145, 154, 176, 186, 199, 201, 203, 212, 221, 230, 240, 249, 262, 277, 280, 282, 302, 304, 320]
- United States: [394, 410, 41, 349, 350, 402, 331, 45, 47, 411, 54, 369, 396, 397, 398, 403, 404, 405, 414, 333, 351, 371, 375, 406, 413, 61, 67, 11, 73, 74, 79, 81, 85, 86, 13, 87, 93, 99, 100, 101, 16, 18, 112, 121, 123, 20, 138, 143, 162, 165, 174, 190, 205, 207, 27, 216, 231, 239, 254, 255, 257, 258, 437, 261, 263, 34, 270, 273, 288, 290, 296, 301, 303, 305, 317, 323]
- Unknown country: [32, 264, 265, 285, 286, 289, 292]
- Yugoslavia: [135, 179, 324]



# Chapter 5

## Permuted title index

The words of the titles of the articles are shown in the next table arranged in alphabetical order. The most common words have been excluded. The key word is shown by a disk (●) in the title field with the exception that it is omitted when appearing as the first word of the title after shown keyword. The other abbreviation used to compress titles are shown in appendix A.

- [47] **A\*** Subopt. MAP estimates using ● and GAs
- [428] **abilities** Characterizing the adaptation ● of a class of gen. based machine learning alg.
- [76, 196] **acquisition** A gait ● of 6-legged walking robot using immune networks
- [49] – Expert Rule ● and Refinement by GA - An Appr. to Multidimensional Problems
- [359] – Knowledge ● and distr. decision making - Cellular robotics appr. using GA based on local knowledge and local communication
- [234] ● of visually guided swing motion based on GA and NN by two-armed bipedal robot
- [79] **Acrobot** Automatic design and tuning of a fuzzy syst. for cntr. the ● using GAs, DSFS, and meta-rule techniques
- [62] **actuation** Appl. of a GA to an ● mechanism for robotic vision
- [184] **adapt** Learning to ● to changing environments in evolving neural networks
- [428] **adaptation** Characterizing the ● abilities of a class of gen. based machine learning alg.
- [318] ● learning and evol. for intelligent robotic syst.
- [294] ● learning, and evol. computing for intelligent robots
- [31] – Self ● of agent's behavior using GA with n-BDD
- [325] **adaptive** Decentralized ● fuzzy cntr. of robot manipulators
- [287] – Generating ● behavior for a real robot using function regression within gen. prog.
- [226] – Gen. -based ● fuzzy cntr. for robot path planning
- [382, 383] – Incremental evol. of neural network architectures for ● behaviour
- [135] ● cntr. of robot manipulators with fuzzy supervisor using GAs
- [301] ● evol. planner/navigator for mobile robots
- [32] ● fuzzy logic cntr. by GA
- [111] ● learning of a robot arm
- [158] ● learning using GAs and EP in robotic syst.
- [149] ● two layer fuzzy cntr. of a mobile robot syst.
- [251] **adaptive control** Neuro-gen. ● with appl. to robot manipulators
- [148] **agent** Micro autonomous robotic syst. and biologically inspired immune swarm strategy as a multi ● robotic system
- [134] **agents** From evol. of innate behaviors to evolution of learning in robotic ●
- [119] – Robot shaping: Developing autonomous ● through learning
- [346] – Robot shaping: Developing situated ● through learning
- [31] **agent's** Self adaptation of ● behavior using GA with n-BDD
- [429] **AGIL** Solving the Exploration versus Exploitation dilemma in a simple CS appl. to simulated robotics
- [84] **agricultural** Creation of opt. route for ● vehicle and construction machinery by using a GA
- [387] **AI** An evol. appr. to situated ●
- [167] **Alecsys** and the autonomous: learning to cntr. a real robot by distr. classifier syst.
- [42] **ALECSYS** and the AUTONOUSE: Learning to Cntr. a Real Robot by Distr. CSs
- [14] **allocation** Inspection ● in manufacturing syst. : A GA appr.
- [334] **Analogous** crossover
- [379, 388] **Analysing** recurrent dynamical networks evolved for robot cntr.
- [378, 386] **Analysis** of evolved sensory-motor cntr.
- [213] – Robot synthesis using GAs: ● and evaluations
- [333] **analytic** Using ● and gen. methods to learn plans for mobile robots
- [144] **animats** Evol. and development of cntr. architectures in ●
- [137] **ants** Muurahaisten jalanjällillä – kävelevät koneet, robottiyhteisöt ja niiden ohjaus [On foot steps of ● – Walking machines, robot societies and their cntr. ]
- [82] **aplicación** Estudio de la coordinación inteligente en robots bípedos: ● de lógica borrosa y algoritmos genéticos
- [395] **Application** A Multi-Pop. GA and its ● to Design of Manipulators
- [105, 266] – An ● of evol. alg. to the sch. of robotic operations
- [232] – Artificial neurogenesis: an ● to autonomous robotics
- [268] – Evol. ordered neural network and its ● to robot manipulator cntr.
- [52] – Evol. techniques and their ● to eng. design
- [435] – Extraction method of failure signal by GA and the ● to inspection and diagnosis robot
- [163] – Fuzzy syst. modeling and its ● to mobile robot cntr.
- [244] – GA tuning of Lyapunov-based cntr. : An ● to single-link flexible robot syst.
- [430] – Ident. of fuzzy cntr. rules utilizing GAs and its ● to mobile robots
- [219] – Memory-based neural network and its ● to a mobile robot with evol. and experience learning
- [251] – Neuro-gen. adaptive cntr. with ● to robot manipulators
- [62] ● of a GA to an actuation mechanism for robotic vision
- [216] ● of evolved locomotion cntr. to a hexapod robot
- [356] ● of GA for distr. decision making: Planning for structure configuration of cellular robotic syst.
- [319] ● of GA to sch. problem of robot cntr. computation
- [235] ● of GAs to point-to-point motion of redundant manipulators
- [370] ● of GAs to task planning and learning

- [175] – Study of dynamically reconfigurable robotic syst. (23th report, • of GA to opt. location problem on self-organizing manufacturing system)
- [81] – Terrain flattening by autonomous robot: A gen. prog. •
- [63] – The Ariadne's clew alg. : A general planning technique, • to automatic path planning
- [138] – The • of gen. prog. to cooperative movement planning and execution
- [275] – Virus-evol. GA with subpop. : • to trajectory generation of redundant manipulator through energy opt.
- [322] **Applications** Evol. Prog. Induction of Binary Machine Code and its •
- [21] • of GA and simulation to dispatching rule-based FMS sch.
- [273] – Soft computing paradigms for learning fuzzy cntr. with • to robotics
- [340] **Applied** A GA • to Robot Trajectory Generation
- [72] – Evol. robotics and • artificial life
- [439] – Evol. strategies • to cntr. s of a two axis robot
- [101] – GA • to maze passing problem of mobile robot - A comparison with the learning perf. of the hierarchical structure stochastic automata
- [335] – GAs for order dependent processes • to robot path-planning
- [329] – GAs • to formal neural networks: Par. gen. impl. of a Boltzmann machine and associated robotic experimentations
- [91] – Parameter determination for a GA • to robot cntr.
- [429] – AGIL: Solving the Exploration versus Exploitation dilemma in a simple CS • to simulated robotics
- [320] **Applying** gen. prog. to evolve behavior primitives and arbitrators for mobile robots
- [141] **arbitration** Dynamic behavior • of autonomous mobile robots using immune networks
- [222] – Immunoid: An immunological appr. to decentralized behavior • of autonomous mobile robots
- [320] **arbitrators** Applying gen. prog. to evolve behavior primitives and • for mobile robots
- [123] **architecture** Evol. of subsumption • that perform a wall following task for an autonomous mobile robot via gen. prog.
- [380, 389] – Gen. convergence in a species of evolved robot cntr. •
- [425] • and impl. issues about learning for a group of mobile robots with a distributable GA
- [144] **architectures** Evol. and development of cntr. • in animats
- [71] – Evol. of autonomous robot cntr. •
- [382, 383] – Incremental evol. of neural network • for adaptive behaviour
- [242] – Variations in evol. of subsumption • using gen. prog. : The wall following robot revisited
- [63] **Ariadne's clew** The • alg. : A general planning technique, Appl. to automatic path planning
- [422] **ARIADNE'S CLEW** A massively par. impl. of the • alg.
- [423] – Par. motion planning with the • alg.
- [419] – Robot motion planning with the • Alg.
- [420] – The • alg.
- [421] – The • alg. : Global planning with local methods
- [111] **arm** Adaptive learning of a robot •
- [78] – GA and simulated annealing for opt. robot • PID cntr.
- [240] – Gen. cntr. of near time-opt. motion for an industrial robot •
- [165] – Multiobjective design opt. of counterweight balancing of a robot • using GAs
- [98] **arms** An evol. solution for the cntr. of mechanical •
- [296] – Design using GAs of hierarchical hybrid fuzzy-PID cntr. of two-link robotic •
- [400] – GAs for the opt. dynamic cntr. of robot •
- [323] – Using a new GA-based multiobjective opt. technique for the design of robot •
- [307] **articulated** A gen. path planning alg. for redundant • robots
- [431] – Gen. based minimum-time trajectory planning of • manipulators with torque constraints
- [258] **artificial** Evol. of an • neural network based autonomous land vehicle cntr.
- [413] – Evolving • insect brains for • compound eye robotics
- [390, 391] – General visual robot cntr. networks via • evol.
- [182] – Kinematics of robot by a new GA technique using • sel.
- [232] • neurogenesis: an appl. to autonomous robotics
- [75, 107] – Seeing the light: • evol. , real vision
- [221] – The • evol. of robot cntr. syst.
- [350] **artificial intelligence** Robotics and • EP for ASAT battle management
- [225] – The use of evol. prog. for learning of • syst.
- [72] **artificial life** Evol. robotics and appl. •
- [331] • and real robots
- [151] **Artificielle** Une approche inspiree de la Vie • pour la synthese d'Agents Autonomes
- [350] **ASAT** Robotics and artificial intelligence: EP for • battle management
- [170] **assembly** Determining task opt. modular robot • configurations
- [298] • planning considering a posture of a subassembly-search of a posture of a subassembly to avoid collision using GA
- [290] – Simulation and opt. of • processes involving flexibleparts
- [36] **assembly planning** Linear and non-linear • fuzzy graph Rep. and GA search
- [229] **assignment** GA for robot sel. and work station • problem
- [15] – GA for the multilevel generalized • problem
- [103] **assistant** Robo sapiens: a personal • robot
- [329] **associated** GAs appl. to formal neural networks: Par. gen. impl. of a Boltzmann machine and • robotic experimentations
- [89] **attention** Planning focus of • for multifingered hand with consideration of time-varying aspects
- [139] **attractors** Circle in the round: State space • for evolved sighted robots
- [48] **Auto** tuning of 3-D packing rules using GAs
- [101] **automata** GA appl. to maze passing problem of mobile robot - A comparison with the learning perf. of the hierarchical structure stochastic •
- [128] **Automate** Kiki • pensant
- [27] **Automated** design of part feeders using a GA
- [95] **automatic** Fuzzy evol. alg. and • robot trajectory generation
- [79] • design and tuning of a fuzzy syst. for cntr. the Acrobot using GAs, DSFS, and meta-rule techniques
- [23] • graph drawing by gen. search
- [407] • heuristic rule generation for robot task planning - A gen. appr.
- [396] • prog. of robots using gen. prog. ming
- [63] – The Ariadne's clew alg. : A general planning technique, Appl. to • path planning
- [375] – The gen. planner – The • generation of plans for a mobile robot via genetic prog. with automatically defined functions
- [373] – The gen. planner: The • generation of plans for a mobile robot via genetic prog.
- [372, 374] – The • generation of plans for a mobile robot via gen. prog. with automatically defined functions
- [372, 374] **automatically** The automatic generation of plans for a mobile robot via gen. prog. with • defined functions
- [375] – The gen. planner – The automatic generation of plans for a mobile robot via genetic prog. with • defined functions
- [289] – The lawnmower problem revisited: Stack-based gen. prog. and • defined functions
- [151] **Autonomes** Une approche inspiree de la Vie Artificielle pour la synthese d'Agents •
- [194] **autonomous** An immunological appr. to dynamic behavior cntr. for • mobile robots
- [392] – An • legged robot that learns to walk through simulated evol.
- [232] – Artificial neurogenesis: an appl. to • robotics
- [180] – Broadcast based fitness sharing GA for conflict resolution among • robots
- [141] – Dynamic behavior arbitration of • mobile robots using immune networks
- [330] – ELF: learning incomplete fuzzy rule sets for an • robot
- [181] – Evol. and mobile • robotics
- [258] – Evol. of an artificial neural network based • land vehicle cntr.
- [123] – Evol. of subsumption architecture that perform a wall following task for an • mobile robot via gen. prog.
- [71] – Evol. of • robot cntr. architectures
- [88] – Evolving co-operation in • robotic syst.
- [150] – Evolving non-trivial behaviors on real robots: An • robot that pick up objects

- [427] – GAs and CSs for an • Moving Robot  
 [342] – GAs for • robot prog.  
 [250] – Gen. evol. of a logic circuit which cntr. s an • mobile robot  
 [110] – How to evolve • robots: different appr. in evol. robotics  
 [222] – Immunoid: An immunological appr. to decentralized behavior arbitration of • mobile robots  
 [278] – Introduction to the special issue on learning • robots  
 [347] – Learning to cntr. an • robot by distr. GAs  
 [148] – Micro • robotic syst. and biologically inspired immune swarm strategy as a multi agent robotic system  
 [349] – Opt. routing of multiple • underwater vehicles through evol. prog.  
 [119] – Robot shaping: Developing • agents through learning  
 [143] – Robust • location cntr. using EP for • mobile robots  
 [393] – Study on an • robot navigation problem using a CS  
 [81] – Terrain flattening by • robot: A gen. prog. appl.  
 [86] – Using GAs to learn reactive cntr. behaviours for • robotic navigation  
 [80] **autonomous guided vehicles** GAs for the development of fuzzy cntr. for •  
 [77] **autonomous systems** Evol. al self-organization of distr. •  
 [167] **autonomous** Alecsys and the • learning to cntr. a real robot by distr. classifier syst.  
 [42] **AUTONOMOUSE** ALECSYS and the • Learning to Cntr. a Real Robot by Distr. CSs  
 [142] **autotuning** Run-time • of a robot cntr. using a gen. based ML cntr. scheme  
 [298] **avoid** Assembly planning considering a posture of a subassembly-search of a posture of a subassembly to • collision using GA  
 [411] **avoidance** Obstacle • of redundant manipulators using GAs  
 [102] – Robot trajectory planning and collision • using GAs  
 [211] – Vision-based Obstacle • A Coevol. Appr.  
 [198] **avoiding** A gen. prog. syst. learning obstacle • behavior and cntr. a miniature robot in real time  
 [439] **axis** Evol. strategies appl. to cntr. s of a two • robot  
 [399] – Ident. der Systemparameter 6-achsiger Gelenkarm-roboter mit Hilfe der ES [Identification of the syst. parameter of a 6 • robot with the help of an evol. strategy]  
 [398] **back up** A gen. appr. to finding a cntr. to • a tractor-trailed truck  
 [361] **balancing** Coordinative • in evol. multi-agent-robot syst. using GA  
 [165] – Multiobjective design opt. of counterweight • of a robot arm using GAs  
 [64] **baseret** Simuleret skovbrandsbekæmpelse – et eksempel på genetisk • maskinindlæring [Simulated forest fire fights – an example of gen. based machine learning]  
 [350] **battle** Robotics and artificial intelligence: EP for ASAT • management  
 [22] **beam** Deflection cntr. of a flexible • by using shape memory alloy wires under the GA control  
 [198] **behavior** A gen. prog. syst. learning obstacle avoiding • and cntr. a miniature robot in real time  
 [194] – An immunological appr. to dynamic • cntr. for autonomous mobile robots  
 [237] – An on-line method to evolve • and to cntr. a miniature robot in real time with gen. prog.  
 [320] – Applying gen. prog. to evolve • primitives and arbitrators for mobile robots  
 [46] – Coordinative • by GA and fuzzy in evol. multi-agent syst.  
 [358] – Coordinative • in evol. multi-agent syst. by GA  
 [364] – Coordinative • in Evol. Multi-Agent-Robot Syst.  
 [141] – Dynamic • arbitration of autonomous mobile robots using immune networks  
 [112] – Evol. of corridor following • in a noisy world  
 [287] – Generating adaptive • for a real robot using function regression within gen. prog.  
 [222] – Immunoid: An immunological appr. to decentralized • arbitration of autonomous mobile robots  
 [202] – Real time evol. of • and a world model for a miniature robot using gen. prog.  
 [205] – RoboShepherd: Learning a complex •  
 [83] – Sel. for wandering • in a small robot  
 [31] – Self adaptation of agent's • using GA with n-BDD  
 [69] – Self-organizing robotic syst. . Organization and evol. of group • in cellular robotic syst.  
 [238] **behavioral** Evolving real-time • modules for a robot with GP  
 [162] **behavior-oriented** Gen. evol. of • robots  
 [236] **behaviors** Evolving non-trivial • on real robots: A garbage collecting robot  
 [150] – Evolving non-trivial • on real robots: An autonomous robot that pick up objects  
 [134] – From evol. of innate • to evolution of learning in robotic agents  
 [61] – Learning robot • using GAs  
 [127] **behaviour** Evaluating the wall following • of a mobile robot with fuzzy logic  
 [348] – Gen. -based machine learning and • based robotics: A new synthesis  
 [382, 383] – Incremental evol. of neural network architectures for adaptive •  
 [409, 426] – Learning the • of a simulated moving robot using GAs  
 [345] – Organisation of robot • through gen. learning process  
 [176] **behaviours** A fuzzy model for evol. of • in robotics  
 [86] – Using GAs to learn reactive cntr. • for autonomous robotic navigation  
 [152] **benchmark** GA in continuous space and fuzzy classifier syst. for opening of door with manipulator of mobile robot: new • of evol. intelligent computing  
 [55] **Bibliography** Indexed • of GAs in Robotics  
 [43] **bin packing** A GA for • and line balancing  
 [322] **Binary** Evol. Prog. Induction of • Machine Code and its Appl.  
 [148] **biologically** Micro autonomous robotic syst. and • inspired immune swarm strategy as a multi agent robotic system  
 [169] **biology** Moving the frontiers between robotics and •  
 [303] **biped** GA for cntr. design of • locomotion  
 [284] – Nat. motion generation of • locomotion robot using hierarchical trajectory generation method consisting of GA, EP layers  
 [206] – Nat. motion trajectory generation of • locomotion robot using GA through energy opt.  
 [312] – Stabilization cntr. of • locomotion robot based learning with GAs having self-adaptive mutation and recurrent neural networks  
 [234] **bipedal** Acquisition of visually guided swing motion based on GA and NN by two-armed • robot  
 [68] **BIRO** Putting INK into a • A discussion of problem domain knowledge for evol. robotics  
 [329] **Boltzmann machine** GAs appl. to formal neural networks: Par. gen. impl. of a • and associated robotic experiments  
 [344] **bootstrapping** A • appr. to robot intelligence: First results  
 [82] **borrosa** Estudio de la coordinación inteligente en robots bípedos: aplicación de lógica • y algoritmos genéticos  
 [295] **brachiation** Motion generation of two-link • robot  
 [114] **brains** Evol. robots. our hands in their •  
 [413] – Evolving artificial insect • for artificial compound eye robotics  
 [180] **Broadcast** based fitness sharing GA for conflict resolution among autonomous robots  
 [172] **cache** Fuzzy potential appr. with the • gen. learning alg. for robot path planning  
 [269] **Cache-genetic-based** modular fuzzy neural network for robot path planning  
 [254] **calibration** Opt. planning of robot • experiments by GAs  
 [352] **CEBOT** Self-organizing Intelligence for Cellular Robotic Syst. • with Gen. Knowledge Production Alg.  
 [30] **cell** An integrated method for • layout problem using GAs  
 [35] – Manufacturing • formation using distr. evol. alg.  
 [356] **cellular** Appl. of GA for distr. decision making: Planning for structure configuration of • robotic syst.  
 [365] – Cooperative search using GA based on local info – Path planning for structure configuration of • robot  
 [440] – Coordinate planning using GA - structure configuration of • robotic syst.  
 [173] – Gen. evol. and self-organization of • robotic syst.  
 [359] – Knowledge acquisition and distr. decision making - • robotics appr. using GA based on local knowledge and local communication

- [106] – Neural network synthesis using • encoding and the GA
- [159] – Self-organization and evol. in • robotic syst.
- [352] – Self-organizing Intelligence for • Robotic Syst. “CE-BOT” with Gen. Knowledge Production Alg.
- [362] – Structural organization of • robot based on gen. info
- [354] – Structure configuration using GA for • robotic syst.
- [355] – Structure organization using swarm intelligence for • robotic syst.
- [279] – Trajectory planning of • manipulator syst. using virus-evol. GA
- [29] **cellular automaton** Optimising the parameters for GA evolving of a 1-D •
- [69] **cellular robotic system** Self-organizing robotic syst. Organization and evol. of group behavior in •
- [231] **Challenges** in evolving cntr. for physical robots
- [371] **changing** GAs for tracking • environments
- [184] – Learning to adapt to • environments in evolving neural networks
- [197] – Pre-adaptations in pop. of neural networks living in a • environment
- [428] **Characterizing** the adaptation abilities of a class of gen. based machine learning alg.
- [146] **chromosome** From the • to the neural network
- [139] **Circle** in the round: State space attractors for evolved sighted robots
- [428] **class** Characterizing the adaptation abilities of a • of gen. based machine learning alg.
- [324] **classification** A NN-based • of environment dynamics for compliant of manipulation robots
- [427] **Classifier** GAs and • Syst. for an Autonomous Moving Robot
- [429] – AGIL: Solving the Exploration versus Exploitation dilemma in a simple • syst. appl. to simulated robotics
- [42] – ALECSYS and the AUTONOUSE: Learning to Cntr. a Real Robot by Distr. • Syst.
- [393] – Study on an autonomous robot navigation problem using a • syst.
- [152] **classifier system** GA in continuous space and fuzzy • for opening of door with manipulator of mobile robot: new benchmark of evol. intelligent computing
- [167] **classifier systems** Alecsys and the autonomouse: learning to cntr. a real robot by distr. •
- [129] – Evol. in multi-agent syst. : Evolving communicating • for gait in a quadrapedal robot
- [33] **clustering** Gen. task • for modular neural networks
- [322] **Code** Evol. Prog. Induction of Binary Machine • and its Appl.
- [153] – Opt. dynamic cntr. of a mobile robot by GA with symmetric • – GASC
- [438] **coding method** Emergence of effective fuzzy rules for cntr. mobile robots using DNA •
- [241] **co-evolution** Gen. prog. and • Developing robust general purpose cntr. using local mating in 2-dimensional pop.
- [305] – Using • to produce robust robot cntr.
- [276] **Coevolution** Virus-evol. GA – • of planar grid model
- [293] **co-evolutionary** God save the red queen! Competition in • robotics
- [211] **Coevolutionary** Vision-based Obstacle Avoidance: A • Appr.
- [154] **collision** An evol. alg. for • free motion planning of multi-arm robots
- [298] – Assembly planning considering a posture of a subassembly-search of a posture of a subassembly to avoid • using GA
- [97] • free minimum trajectory planning for manipulators using global search and gradient method
- [102] – Robot trajectory planning and • avoidance using GAs
- [65] **Collision avoidance** planning of a robot manipulator by using GA - a consideration for the problem in which moving obstacles and/or several robots are included in the workspace
- [415] **collision-free** Generation of • paths, a gen. appr.
- [317] **Combining** robot cntr. strategies using GAs with memory
- [129] **communicating** Evol. in multi-agent syst. : Evolving • classifier syst. s for gait in a quadrapedal robot
- [359] **communication** Knowledge acquisition and distr. decision making - Cellular robotics appr. using GA based on local knowledge and local •
- [306] **Comparing** real and simulated evol. robotics.
- [101] **comparison** GA appl. to maze passing problem of mobile robot - A • with the learning perf. of the hierarchical structure stochastic automata
- [293] **Competition** God save the red queen! • in co-evol. robotics
- [205] **complex** RoboShepherd: Learning a • behavior
- [324] **compliant** A NN-based classification of environment dynamics for • of manipulation robots
- [413] **compound eye** Evolving artificial insect brains for artificial • robotics
- [319] **computation** Appl. of GA to sch. problem of robot cntr. •
- [209] **computed-torque/fuzzy-logic** Gen. rule induction in the design of • cntr. for robotic manipulators
- [256] – Practical impl. of gen. designed • cntr. for robotic manipulators
- [260] **Computer-aided** Rechnergestützte Entwurfsmethodik für Handhabungsgeräte mit genetischen Algen • design of manipulators with GAs]
- [122, 201] **computer-torque** Gen. design of • cntr. for robotic manipulators
- [294] **computing** Adaptation, learning, and evol. • for intelligent robots
- [212] – Evol. • in multi-agent environments: speciation and symbiogenesis
- [152] – GA in continuous space and fuzzy classifier syst. for opening of door with manipulator of mobile robot: new benchmark of evol. intelligent •
- [299] **concensus-making** Robot with decentralized • mechanism based on the immune syst.
- [285] **concept** Robot intelligence through the • of evol.
- [304] **configuration** A gen. appr. to motion planning of redundant mobile manipulator syst. considering safety and •
- [87] – A gen. methodology for • design
- [356] – Appl. of GA for distr. decision making: Planning for structure • of cellular robotic syst.
- [365] – Cooperative search using GA based on local info – Path planning for structure • of cellular robot
- [440] – Coordinate planning using GA - structure • of cellular robotic syst.
- [403] – Mobile manipulator • opt. using EP
- [405] • opt. of mobile manipulators with equality constraints using EP
- [354] – Structure • using GA for cellular robotic syst.
- [170] **configurations** Determining task opt. modular robot assembly •
- [180] **conflict** Broadcast based fitness sharing GA for • resolution among autonomous robots
- [408] **connection** Structural evol. of neural networks having arbitrary • by a gen. method
- [304] **considering** A gen. appr. to motion planning of redundant mobile manipulator syst. • safety and configuration
- [298] – Assembly planning • a posture of a subassembly-search of a posture of a subassembly to avoid collision using GA
- [277] – Investigation into the decoding of gen. -based robot motion • sequential and par. formulations
- [282] – Investigations into robotic multi-joint motion • multi-criteria opt. using GAs
- [284] **consisting** Nat. motion generation of biped locomotion robot using hierarchical trajectory generation method • of GA, EP layers
- [405] **constraints** Configuration opt. of mobile manipulators with equality • using EP
- [431] – Gen. based minimum-time trajectory planning of articulated manipulators with torque •
- [85] – Vehicle route planning with • using GAs
- [84] **construction** Creation of opt. route for agricultural vehicle and • machinery by using a GA
- [401] – Gen. prog. appr. to the • of a neural network for cntr. of a walking robot
- [309] – Sel. of opt. • robot using GAs
- [183] **contact** Cooperative manipulations based on GA using • info
- [38] **context-based** Opt. • stereo using gen. feature sel.
- [152] **continuous** GA in • space and fuzzy classifier syst. for opening of door with manipulator of mobile robot: new benchmark of evol. intelligent computing
- [32] **control** Adaptive fuzzy logic • by GA
- [149] – Adaptive two layer fuzzy • of a mobile robot syst.
- [135] – Adaptive • of robot manipulators with fuzzy supervisor using GAs



- [167] – Alecsys and the autonomous: learning to • a real robot by distr. classifier syst.
- [98] – An evol. solution for the • of mechanical arms
- [194] – An immunological appr. to dynamic behavior • for autonomous mobile robots
- [237] – An on-line method to evolve behavior and to • a miniature robot in real time with gen. prog.
- [379, 388] – Analysing recurrent dynamical networks evolved for robot •
- [319] – Appl. of GA to sch. problem of robot • computation
- [317] – Combining robot • strategies using GAs with memory
- [325] – Decentralized adaptive fuzzy • of robot manipulators
- [22] – Deflection • of a flexible beam by using shape memory alloy wires under the GA •
- [144] – Evol. and development of • architectures in animats
- [93] – Evol. by gen. prog. of a spatial robot juggling • alg.
- [71] – Evol. of autonomous robot • architectures
- [124] – Evol. of neural • structures: some experiments on mobile robots
- [268] – Evol. ordered neural network and its appl. to robot manipulator •
- [381] – Evolving Recurrent Dynamical Networks for Robot •
- [178] – Evolving robot • syst.
- [360] – Fuzzy critic for robotic motion planning by GA in hierarchical intelligent •
- [163] – Fuzzy syst. modeling and its appl. to mobile robot •
- [78] – GA and simulated annealing for opt. robot arm PID •
- [303] – GA for • design of biped locomotion
- [57] – GAs and robot • A review
- [60] – GAs and robot •
- [136] – GAs for robot •
- [400] – GAs for the opt. dynamic • of robot arms
- [380, 389] – Gen. convergence in a species of evolved robot • architecture
- [412] – Gen. inversion of robot dynamics for trajectory •
- [240] – Gen. • of near time-opt. motion for an industrial robot arm
- [401] – Gen. prog. appr. to the construction of a neural network for • of a walking robot
- [118] – Global opt. technique for velocity • of redundant robots
- [24] – Hybrid and distr. GAs for motion •
- [190] – Hybrid fuzzy • schemes for robotics syst.
- [430] – Ident. of fuzzy • rules utilizing GAs and its appl. to mobile robots
- [191] – Intelligent fuzzy motion • of mobile robot for service use
- [253] – Intelligent • for robotic and mechatronic syst. - a review
- [265] – Joint • of a walking robot
- [347] – Learning to • an autonomous robot by distr. GAs
- [233] – Mobile robot fuzzy • opt. using GA
- [218] – Mobile robot fuzzy • opt. using GA
- [137] – Muurahaisten jalanjäljillä – kävelevät koneet, robottiyhteisöt ja niiden ohjaus [On foot steps of ants – Walking machines, robot societies and their •
- [433] – On finding the opt. GAs for robot • problems
- [153] – Opt. dynamic • of a mobile robot by GA with symmetric code – GASC
- [437] – Opt. • of a flexible hull robotic undersea vehicle propelled by an oscillating foil
- [91] – Parameter determination for a GA appl. to robot •
- [143] – Robust autonomous location • using EP for autonomous mobile robots
- [157] – Robust • of non-holonomic wheeled mobile robot based on EP for opt. motion
- [142] – Run-time autotuning of a robot cntr. using a gen. based ML • scheme
- [42] – ALECSYS and the AUTONOUSE: Learning to • a Real Robot by Distr. CSs
- [247] – Skill based motion planning in hierarchical intelligent • of a redundant manipulator
- [252] – Stabilization of nonholonomic mobile robots by a GA-based fuzzy sliding mode •
- [312] – Stabilization • of biped locomotion robot based learning with GAs having self-adaptive mutation and recurrent neural networks
- [308] – Study on plant inspection and diagnosis robot. III. Method of searching a faulty sound source by a manipulator with GAs •
- [221] – The artificial evol. of robot • syst.
- [280] – Transputer based GA motion • for PUMA robot
- [305] – Using co-evol. to produce robust robot •
- [86] – Using GAs to learn reactive • behaviours for autonomous robotic navigation
- [434] **controlled** Mechanic human head robot • by a fuzzy inference engine
- [398] **controller** A gen. appr. to finding a • to back up a tractor-trailed truck
- [164] – A wall following robot with a fuzzy logic • optimized by a GA
- [258] – Evol. of an artificial neural network based autonomous land vehicle •
- [272] – Evol. learning of fuzzy • for a mobile robot
- [390, 391] – General visual robot • networks via artificial evol.
- [203] – Gen. robustification of digital trajectory-tracking • for robotic manipulators
- [226] – Gen. -based adaptive fuzzy • for robot path planning
- [179] – Neuro-fuzzy-gen. • design for robot manipulators
- [142] – Run-time autotuning of a robot • using a gen. based ML cntr. scheme
- [270] **controllers** An Incremental appr. to developing intelligent neural network • for robots
- [378, 386] – Analysis of evolved sensory-motor •
- [216] – Appl. of evolved locomotion • to a hexapod robot
- [231] – Challenges in evolving • for physical robots
- [244] – GA tuning of Lyapunov-based • An appl. to single-link flexible robot syst.
- [80] – GAs for the development of fuzzy • for autonomous guided vehicles
- [122] – Gen. design of computer-torque • for robotic manipulators
- [201] – Gen. design of computer-torque/fuzzy-logic • for robotic manipulators
- [199] – Gen. design of fuzzy-logic • for robotic manipulators
- [241] – Gen. prog. and co-evol. : Developing robust general purpose • using local mating in 2-dimensional pop.
- [209] – Gen. rule induction in the design of computed-torque/fuzzy-logic • for robotic manipulators
- [186] – Perf. measures in the gen. design of digital • for robotic manipulators
- [256] – Practical impl. of gen. designed computed-torque/fuzzy-logic • for robotic manipulators
- [273] – Soft computing paradigms for learning fuzzy • with appl. to robotics
- [12] – Tuning and opt. of membership functions of fuzzy logic • by GAs
- [198] **controlling** A gen. prog. syst. learning obstacle avoiding behavior and • a miniature robot in real time
- [79] – Automatic design and tuning of a fuzzy syst. for • the Acrobot using GAs, DSFS, and meta-rule techniques
- [438] – Emergence of effective fuzzy rules for • mobile robots using DNA coding method
- [204] – Gen. prog. • a miniature robot
- [439] **controls** Evol. strategies appl. to • of a two axis robot
- [250] – Gen. evol. of a logic circuit which • an autonomous mobile robot
- [380, 389] **convergence** Gen. • in a species of evolved robot cntr. architecture
- [214] **cooperation** Coordination-based • protocol in multi-agent robotic syst.
- [88] **co-operation** Evolving • in autonomous robotic syst.
- [183] **Cooperative** manipulations based on GA using contact info
- [365] • search using GA based on local info – Path planning for structure configuration of cellular robot
- [138] – The appl. of gen. prog. to • movement planning and execution
- [82] **coordinación** Estudio de la • inteligente en robots bípedos: aplicación de lógica borrosa y algoritmos genéticos
- [440] **Coordinate** planning using GA - structure configuration of cellular robotic syst.
- [245] **coordinating** Trajectory planning of multiple • robots using GAs
- [171] **coordination** Gait • of hexapod walking robots using mutual-coupled immune networks
- [90] • in evol. multi-agent-robotic syst. using fuzzy and GA
- [214] **Coordination-based** cooperation protocol in multi-agent robotic syst.
- [361] **Coordinative** balancing in evol. multi-agent-robot syst. using GA
- [46] • behavior by GA and fuzzy in evol. multi-agent syst.

- [358] • behavior in evol. multi-agent syst. by GA
- [364] • Behavior in Evol. Multi-Agent-Robot Syst.
- [367] – Path Planning using GAs (2nd Report, selfish planning and • planning for multiple robot syst. )
- [353] – Selfish and • planning for multiple robots by GAs
- [112] **corridor** Evol. of • following behavior in a noisy world
- [165] **counterweight** Multiobjective design opt. of • balancing of a robot arm using GAs
- [441, 442] **crawling** Evol. robotics and SAGA: the case for hill • and tournament sel.
- [44] **Creating** part families with a grouping GA
- [84] **Creation** of opt. route for agricultural vehicle and construction machinery by using a GA
- [311] **criteria** Motion planning by GA for a redundant manipulator using a model of • of skilled operators
- [195] – Motion planning by GA for a redundant manipulator using an evaluation function based on • of skilled operators
- [187] – Motion planning of a redundant manipulator - • of skilled operators by fuzzy-ID3 and GMDH and opt. by GA
- [368] **critic** Fuzzy • for robotic motion planning by GA
- [360] – Fuzzy • for robotic motion planning by GA in hierarchical intelligent cntr.
- [363] – Intelligent motion planning by GA with fuzzy •
- [113] – Robotic motion planning by GA with fuzzy •
- [334] **crossover** Analogous •
- [115] **cutting** Motion planning for 3D • by a manipulator with 6 degrees of freedom - Opt. by GA
- [151] **d'Agents** Une approche inspiree de la Vie Artificielle pour la synthese • Autonomes
- [56] **Davidor** Liikeratojen optimointi [Robot path planning by •
- [222] **decentralized** Immunoid: An immunological appr. to • behavior arbitration of autonomous mobile robots
- [325] • adaptive fuzzy cntr. of robot manipulators
- [299] – Robot with • consensus-making mechanism based on the immune syst.
- [356] **decision** Appl. of GA for distr. • making: Planning for structure configuration of cellular robotic syst.
- [19] – GAs for • problems
- [359] – Knowledge acquisition and distr. • making - Cellular robotics appr. using GA based on local knowledge and local communication
- [277] **decoding** Investigation into the • of gen. -based robot motion considering sequential and par. formulations
- [50] **decomposition** Power syst. • using a simulated evol. technique
- [372, 374] **defined** The automatic generation of plans for a mobile robot via gen. prog. with automatically • functions
- [375] – The gen. planner – The automatic generation of plans for a mobile robot via genetic prog. with automatically • functions
- [289] – The lawnmower problem revisited: Stack-based gen. prog. and automatically • functions
- [22] **Deflection** cntr. of a flexible beam by using shape memory alloy wires under the GA control
- [115] **degrees** Motion planning for 3D cutting by a manipulator with 6 • of freedom - Opt. by GA
- [18] **demonstration** GA-opt. for rapid prototype syst. •
- [335] **dependent** GAs for order • processes appl. to robot path-planning
- [432] – Gen. prog. : Evol. of a time • neural network module which teaches a pair of stick legs to walk
- [87] **design** A gen. methodology for configuration •
- [395] – A Multi-Pop. GA and its Appl. to • of Manipulators
- [339] – An evol. standing on the • of redundant manipulators
- [27] – Automated • of part feeders using a GA
- [79] – Automatic • and tuning of a fuzzy syst. for cntr. the Acrobot using GAs, DSFS, and meta-rule techniques
- [52] – Evol. techniques and their appl. to eng. •
- [303] – GA for cntr. • of biped locomotion
- [209] – Gen. rule induction in the • of computed-torque/fuzzy-logic cntr. for robotic manipulators
- [122] – Gen. • of computer-torque cntr. for robotic manipulators
- [201] – Gen. • of computer-torque/fuzzy-logic cntr. for robotic manipulators
- [199] – Gen. • of fuzzy-logic cntr. for robotic manipulators
- [165] – Multiobjective • opt. of counterweight balancing of a robot arm using GAs
- [179] – Neuro-fuzzy-gen. cntr. • for robot manipulators
- [296] • using GAs of hierarchical hybrid fuzzy-PID cntr. of two-link robotic arms
- [186] – Perf. measures in the gen. • of digital cntr. for robotic manipulators
- [260] – Rechnergestützte Entwurfsmethodik für Handhabungsgeräte mit genetischen Alg. en [Computer-aided • of manipulators with GAs]
- [263] – Syst. -level modular • appr. to field robotics
- [323] – Using a new GA-based multiobjective opt. technique for the • of robot arms
- [256] **designed** Practical impl. of gen. • computed-torque/fuzzy-logic cntr. for robotic manipulators
- [91] **determination** Parameter • for a GA appl. to robot cntr.
- [170] **Determining** task opt. modular robot assembly configurations
- [270] **developing** An Incremental appr. to • intelligent neural network cntr. for robots
- [241] – Gen. prog. and co-evol. : • robust general purpose cntr. using local mating in 2-dimensional pop.
- [119] – Robot shaping: • autonomous agents through learning
- [346] – Robot shaping: • situated agents through learning
- [144] **development** Evol. and • of cntr. architectures in animats
- [80] – GAs for the • of fuzzy cntr. for autonomous guided vehicles
- [369] – GAs for the • of real-time multi-heuristic search strategies
- [435] **diagnosis** Extraction method of failure signal by GA and the appl. to inspection and • robot
- [308] – Study on plant inspection and • robot. III. Method of searching a faulty sound source by a manipulator with GAs cntr.
- [203] **digital** Gen. robustification of • trajectory-tracking cntr. for robotic manipulators
- [186] – Perf. measures in the gen. design of • cntr. for robotic manipulators
- [429] **dilemma** AGL: Solving the Exploration versus Exploitation • in a simple CS appl. to simulated robotics
- [54] **discriminant** Learning the opt. • function through gen. learning alg.
- [68] **discussion** Putting INK into a BIRo: A • of problem domain knowledge for evol. robotics
- [51] **dispatching** A method for economic load • using a GA
- [21] – Appl. of GA and simulation to • rule-based FMS sch.
- [425] **distributable** Architecture and impl. issues about learning for a group of mobile robots with a • GA
- [167] **distributed** Alecsys and the autonomous: learning to cntr. a real robot by • classifier syst.
- [356] – Appl. of GA for • decision making: Planning for structure configuration of cellular robotic syst.
- [77] – Evol. al self-organization of • autonomous syst.
- [24] – Hybrid and • GAs for motion cntr.
- [359] – Knowledge acquisition and • decision making - Cellular robotics appr. using GA based on local knowledge and local communication
- [347] – Learning to cntr. an autonomous robot by • GAs
- [35] – Manufacturing cell formation using • evol. alg.
- [42] – ALECSYS and the AUTONOUSE: Learning to Cntr. a Real Robot by • CSS
- [438] **DNA** Emergence of effective fuzzy rules for cntr. mobile robots using • coding method
- [68] **domain** Putting INK into a BIRo: A discussion of problem • knowledge for evol. robotics
- [152] **door** GA in continuous space and fuzzy classifier syst. for opening of • with manipulator of mobile robot: new benchmark of evol. intelligent computing
- [23] **drawing** Automatic graph • by gen. search
- [79] **DSFS** Automatic design and tuning of a fuzzy syst. for cntr. the Acrobot using GAs, • and meta-rule techniques
- [39] **dynamic** A GA embedded • search alg. over a Petri net model for an FMS sch.
- [66] – A gen. solution for the motion of wheeled robotic syst. in • environments
- [194] – An immunological appr. to • behavior cntr. for autonomous mobile robots
- [400] – GAs for the opt. • cntr. of robot arms
- [141] • behavior arbitration of autonomous mobile robots using immune networks
- [153] – Opt. • cntr. of a mobile robot by GA with symmetric code – GASC

- [417] – Par. robot motion planning in a • environment
- [379, 388] **dynamical** Analysing recurrent • networks evolved for robot cntr.
- [381] – Evolving Recurrent • Networks for Robot Cntr.
- [175] **dynamically** Study of • reconfigurable robotic syst. (23th report, appl. of GA to opt. location problem on self-organizing manufacturing system)
- [324] **dynamics** A NN-based classification of environment • for compliant of manipulation robots
- [412] – Gen. inversion of robot • for trajectory cntr.
- [332] **dynamique** Alg. génétiques parallèles pour la planification de trajectoires de robots en environnement •
- [51] **economic** A method for • load dispatching using a GA
- [120] **efficient** A new appr. to gen. based machine learning and an • finding of fuzzy rules
- [249] • evol. strategies for exploration in mobile robotics
- [330] **ELF** learning incomplete fuzzy rule sets for an autonomous robot
- [39] **embedded** A GA • dynamic search alg. over a Petri net model for an FMS sch.
- [438] **Emergence** of effective fuzzy rules for cntr. mobile robots using DNA coding method
- [106] **encoding** Neural network synthesis using cellular • and the GA
- [436] **ended** Evolving robot strategy for open • game
- [206] **energy** Nat. motion trajectory generation of biped locomotion robot using GA through • opt.
- [275] – Virus-evol. GA with subpop. : appl. to trajectory generation of redundant manipulator through • opt.
- [52] **engineering** Evol. techniques and their appl. to • design
- [260] **Entwurfsmethodik** Rechnergestützte • für Handhabungsgeräte mit genetischen Alg. en [Computer-aided design of manipulators with GAs]
- [324] **environment** A NN-based classification of • dynamics for compliant of manipulation robots
- [108] – Evol. alg. for path planning in mobile robot •
- [161] – Opt. the perf. of a robot society in structured • through GAs
- [417] – Par. robot motion planning in a dynamic •
- [197] – Pre-adaptations in pop. of neural networks living in a changing •
- [66] **environments** A gen. solution for the motion of wheeled robotic syst. in dynamic •
- [288] – A multi-skilled robot that recognizes and responds to different problem •
- [212] – Evol. computing in multi-agent • speciation and symbiogenesis
- [147] – Evolving mobile robots in simulated and real •
- [371] – GAs for tracking changing •
- [184] – Learning to adapt to changing • in evolving neural networks
- [332] **environnement** Alg. génétiques parallèles pour la planification de trajectoires de robots en • dynamique
- [284] **EP** Nat. motion generation of biped locomotion robot using hierarchical trajectory generation method consisting of GA, • layers
- [405] **equality** Configuration opt. of mobile manipulators with • constraints using EP
- [243] **errors** An estimation method of modeling • for robot manipulators using a GA
- [155] – Estimation of modeling • for robot manipulators using GA
- [47] **estimates** Subopt. MAP • using A\* and GAs
- [243] **estimation** An • method of modeling errors for robot manipulators using a GA
- [155] • of modeling errors for robot manipulators using GA
- [166] – Position • for mobile robot using sensor fusion
- [127] **Evaluating** the wall following behaviour of a mobile robot with fuzzy logic
- [195] **evaluation** Motion planning by GA for a redundant manipulator using an • function based on criteria of skilled operators
- [200] – Motion planning for a redundant manipulator by GA using an • function extracted from skilled operators
- [213] **evaluations** Robot synthesis using GAs: analysis and •
- [176] **evolution** A fuzzy model for • of behaviours in robotics
- [145] – A New GA for the • of Fuzzy Syst.
- [318] – Adaptation, learning and • for intelligent robotic syst.
- [392] – An autonomous legged robot that learns to walk through simulated •
- [339] – An • standing on the design of redundant manipulators
- [134] – From • of innate behaviors to • of learning in robotic agents
- [390, 391] – General visual robot cntr. networks via artificial •
- [173] – Gen. • and self-organization of cellular robotic syst.
- [250] – Gen. • of a logic circuit which cntr. s an autonomous mobile robot
- [162] – Gen. • of behavior-oriented robots
- [432] – Gen. prog. : • of a time dependent neural network module which teaches a pair of stick legs to walk
- [315] – Hierarchical intelligent robotic syst. -adaptation, learning and •
- [382, 383] – Incremental • of neural network architectures for adaptive behaviour
- [144] • and development of cntr. architectures in animats
- [181] • and mobile autonomous robotics
- [93] • by gen. prog. of a spatial robot juggling cntr. alg.
- [129] • in multi-agent syst. : Evolving communicating classifier syst. s for gait in a quadrapedal robot
- [258] • of an artificial neural network based autonomous land vehicle cntr.
- [71] • of autonomous robot cntr. architectures
- [112] • of corridor following behavior in a noisy world
- [264] • of homing navigation in a real mobile robot
- [124] • of neural cntr. structures: some experiments on mobile robots
- [123] • of subsumption architecture that perform a wall following task for an autonomous mobile robot via gen. prog.
- [207] • of ultrasimple virtual robots
- [210] – On sensor • in robotics
- [50] – Power syst. decomposition using a simulated • technique
- [202] – Real time • of behavior and a world model for a miniature robot using gen. prog.
- [285] – Robot intelligence through the concept of •
- [75, 107] – Seeing the light: Artificial • real vision
- [159] – Self-organization and • in cellular robotic syst.
- [69] – Self-organizing robotic syst. . Organization and • of group behavior in cellular robotic syst.
- [408] – Structural • of neural networks having arbitrary connection by a gen. method
- [221] – The artificial • of robot cntr. syst.
- [225] – The use of • prog. for learning of artificial intelligence syst.
- [242] – Variations in • of subsumption architectures using gen. prog. : The wall following robot revisited
- [249] **evolution strategies** Efficient • for exploration in mobile robotics
- [439] • appl. to cntr. s of a two axis robot
- [399] **evolution strategy** Ident. der Systemparameter 6-achsiger Gelenkarmroboter mit Hilfe der ES [Identification of the syst. parameter of a 6 axis robot with the help of an •
- [109] **evolutional** An appr. to • syst.
- [77] • self-organization of distr. autonomous syst.
- [294] **evolutionary** Adaptation, learning, and • computing for intelligent robots
- [158] – Adaptive learning using GAs and • prog. in robotic syst.
- [301] – Adaptive • planner/navigator for mobile robots
- [313] – Adding memory to the • Planner/Navigator
- [105, 266] – An appl. of • alg. to the sch. of robotic operations
- [154] – An • alg. for collision free motion planning of multi-arm robots
- [387] – An • appr. to situated AI
- [11] – An • appr. to the job-shop sch. problem
- [404] – An • prog. appr. to multi-dimensional path planning
- [228] – An • robot navigation syst. using a gate-level evolvable hardware
- [98] – An • solution for the cntr. of mechanical arms
- [306] – Comparing real and simulated • robotics.
- [405] – Configuration opt. of mobile manipulators with equality constraints using • prog.
- [90] – Coordination in • multi-agent-robotic syst. using fuzzy and GA
- [361] – Coordinative balancing in • multi-agent-robot syst. using GA
- [46] – Coordinative behavior by GA and fuzzy in • multi-agent syst.
- [358] – Coordinative behavior in • multi-agent syst. by GA
- [364] – Coordinative Behavior in • Multi-Agent-Robot Syst.
- [257] – Experiments in • synthesis of robot neurocntr.

- [95] – Fuzzy • alg. and automatic robot trajectory generation
- [152] – GA in continuous space and fuzzy classifier syst. for opening of door with manipulator of mobile robot: new benchmark of • intelligent computing
- [300] – Generation of opt. fault tolerant locomotion of the hexapod robot over rough terrain using • prog.
- [110] – How to evolve autonomous robots: different appr. in • robotics
- [376, 385] – Issues in • robotics
- [35] – Manufacturing cell formation using distr. • alg.
- [219] – Memory-based neural network and its appl. to a mobile robot with • and experience learning
- [403] – Mobile manipulator configuration opt. using • prog.
- [402] – Mobile robot path planning using • prog.
- [108] • alg. for path planning in mobile robot environment
- [212] • computing in multi-agent environments: speciation and symbiogenesis
- [272] • learning of fuzzy cntr. for a mobile robot
- [73, 406] • navigator for a mobile robot
- [268] • ordered neural network and its appl. to robot manipulator cntr.
- [322] • Prog. Induction of Binary Machine Code and its Appl.
- [72] • robotics and appl. artificial life
- [441, 442] • robotics and SAGA: the case for hill crawling and tournament sel.
- [262] • robotics
- [114] • robots. our hands in their brains?
- [52] • techniques and their appl. to eng. design
- [248] – Opt. path generation of a redundant manipulator with • prog.
- [68] – Putting INK into a BIRo: A discussion of problem domain knowledge for • robotics
- [350] – Robotics and artificial intelligence: • Prog. for ASAT battle management
- [143] – Robust autonomous location cntr. using • prog. for autonomous mobile robots
- [157] – Robust cntr. of non-holonomic wheeled mobile robot based on • prog. for opt. motion
- [349] **evolutionary programming** Opt. routing of multiple autonomous underwater vehicles through •
- [399] **Evolutionsstrategie** Ident. der Systemparameter 6-achsiger Gelenkarmroboter mit Hilfe der • [Identification of the syst. parameter of a 6 axis robot with the help of an evol. strategy]
- [228] **evolvable** An evol. robot navigation syst. using a gate-level • hardware
- [237] **evolve** An on-line method to • behavior and to cntr. a miniature robot in real time with gen. prog.
- [320] – Applying gen. prog. to • behavior primitives and arbitrators for mobile robots
- [110] – How to • autonomous robots: different appr. in evol. robotics
- [379, 388] **evolved** Analysing recurrent dynamical networks • for robot cntr.
- [378, 386] – Analysis of • sensory-motor cntr.
- [216] – Appl. of • locomotion cntr. to a hexapod robot
- [139] – Circle in the round: State space attractors for • sighted robots
- [380, 389] – Gen. convergence in a species of • robot cntr. architecture
- [231] **evolving** Challenges in • cntr. for physical robots
- [129] – Evol. in multi-agent syst. : • communicating classifier syst. s for gait in a quadrapedal robot
- [184] – Learning to adapt to changing environments in • neural networks
- [413] • artificial insect brains for artificial compound eye robotics
- [88] • co-operation in autonomous robotic syst.
- [147] • mobile robots in simulated and real environments
- [236] • non-trivial behaviors on real robots: A garbage collecting robot
- [150] • non-trivial behaviors on real robots: An autonomous robot that pick up objects
- [192] • of a fitness based operation strategy for a robot society
- [238] • real-time behavioral modules for a robot with GP
- [381] • Recurrent Dynamical Networks for Robot Cntr.
- [178] • robot cntr. syst.
- [302] • robot morphology
- [436] • robot strategy for open ended game
- [377, 384] • visually guided robots
- [29] – Optimising the parameters for GA • of a 1-D cellular automaton
- [138] **execution** The appl. of gen. prog. to cooperative movement planning and •
- [219] **experience** Memory-based neural network and its appl. to a mobile robot with evol. and • learning
- [329] **experimentations** GAs appl. to formal neural networks: Par. gen. impl. of a Boltzmann machine and associated robotic •
- [124] **experiments** Evol. of neural cntr. structures: some • on mobile robots
- [257] • in evol. synthesis of robot neurocntr.
- [254] – Opt. planning of robot calibration • by GAs
- [49] **Expert** Rule Acquisition and Refinement by GA - An Appr. to Multidimensional Problems
- [429] **Exploitation** AGIL: Solving the Exploration versus • dilemma in a simple CS appl. to simulated robotics
- [249] **exploration** Efficient evol. strategies for • in mobile robotics
- [429] – AGIL: Solving the • versus Exploitation dilemma in a simple CS appl. to simulated robotics
- [200] **extracted** Motion planning for a redundant manipulator by GA using an evaluation function • from skilled operators
- [28] **extracting** A method for • outline using the GA based on factors for perceptive grouping
- [435] **Extraction** method of failure signal by GA and the appl. to inspection and diagnosis robot
- [28] **factors** A method for extracting outline using the GA based on • for perceptive grouping
- [435] **failure** Extraction method of • signal by GA and the appl. to inspection and diagnosis robot
- [44] **families** Creating part • with a grouping GA
- [300] **fault** Generation of opt. • tolerant locomotion of the hexapod robot over rough terrain using EP
- [308] **faulty** Study on plant inspection and diagnosis robot. III. Method of searching a • sound source by a manipulator with GAs cntr.
- [41] **feature** Ocean • recognition using GAs with fuzzy fitness functions (GA/F3)
- [38] – Opt. context-based stereo using gen. • sel.
- [27] **feeders** Automated design of part • using a GA
- [263] **field** Syst. -level modular design appr. to • robotics
- [64] **figths** Simuleret skovbrandsbekæmpelse – et eksempel på genetisk baseret maskinindlæring [Simulated forest fire • – an example of gen. based machine learning]
- [70] **fitness** About the • of simulations whose fuzzy rules are learned by GAs
- [180] – Broadcast based • sharing GA for conflict resolution among autonomous robots
- [192] – Evolving of a • based operation strategy for a robot society
- [220] – Robot path planning by scrap and build • method
- [41] **fitness functions** Ocean feature recognition using GAs with fuzzy • (GA/F3)
- [81] **flattening** Terrain • by autonomous robot: A gen. prog. appl.
- [22] **flexible** Deflection cntr. of a • beam by using shape memory alloy wires under the GA control
- [244] – GA tuning of Lyapunov-based cntr. : An appl. to single-link • robot syst.
- [37] – Gen. tuned fuzzy sch. for • manufacturing syst.
- [437] – Opt. cntr. of a • hull robotic undersea vehicle propelled by an oscillating foil
- [310] – Robot positioning of a • hydraulic manipulator utilizing GA and neural networks
- [40] **flexible manufacturing systems** Intelligent sch. for •
- [290] **flexibleparts** Simulation and opt. of assembly processes involving •
- [39] **FMS** A GA embedded dynamic search alg. over a Petri net model for an • sch.
- [21] – Appl. of GA and simulation to dispatching rule-based • sch.
- [89] **focus** Planning • of attention for multifingered hand with consideration of time-varying aspects
- [437] **foil** Opt. cntr. of a flexible hull robotic undersea vehicle propelled by an oscillating •
- [164] **following** A wall • robot with a fuzzy logic cntr. optimized by a GA
- [127] – Evaluating the wall • behaviour of a mobile robot with fuzzy logic

- [112] – Evol. of corridor • behavior in a noisy world  
 [242] – Variations in evol. of subsumption architectures using gen. prog. : The wall • robot revisited
- [137] **foot** Muurahaisten jalanjäljillä – kävelevät koneet, robottiyhteisöt ja niiden ohjaus [On • steps of ants – Walking machines, robot societies and their cntr. ]
- [64] **forest fire** Simuleret skovbrandsbekæmpelse – et eksempel på genetisk baseret maskinindlæring [Simulated • fights – an example of gen. based machine learning]
- [329] **formal** GAs appl. to • neural networks: Par. gen. impl. of a Boltzmann machine and associated robotic experimentations
- [35] **formation** Manufacturing cell • using distr. evol. alg.  
 [277] **formulations** Investigation into the decoding of gen. -based robot motion considering sequential and par. •
- [259] **forward** Solving the • kinematics of par. manipulators with a GA
- [115] **freedom** Motion planning for 3D cutting by a manipulator with 6 degrees of • - Opt. by GA
- [169] **frontiers** Moving the • between robotics and biology  
 [287] **function** Generating adaptive behavior for a real robot using • regression within gen. prog.
- [54] – Learning the opt. discriminant • through gen. learning alg.  
 [195] – Motion planning by GA for a redundant manipulator using an evaluation • based on criteria of skilled operators  
 [200] – Motion planning for a redundant manipulator by GA using an evaluation • extracted from skilled operators
- [372, 374] **functions** The automatic generation of plans for a mobile robot via gen. prog. with automatically defined •  
 [375] – The gen. planner – The automatic generation of plans for a mobile robot via genetic prog. with automatically defined •
- [289] – The lawnmower problem revisited: Stack-based gen. prog. and automatically defined •
- [53] **fusion** Gen. • of registered images  
 [193] • of fuzzy, NN, GA to the intelligent robotics  
 [166] – Position estimation for mobile robot using sensor •  
 [176] **fuzzy** A • model for evol. of behaviours in robotics  
 [70] – About the fitness of simulations whose • rules are learned by GAs
- [135] – Adaptive cntr. of robot manipulators with • supervisor using GAs  
 [149] – Adaptive two layer • cntr. of a mobile robot syst.  
 [269] – Cache-gen. -based modular • neural network for robot path planning
- [90] – Coordination in evol. multi-agent-robotic syst. using • and GA  
 [46] – Coordinative behavior by GA and • in evol. multi-agent syst.  
 [325] – Decentralized adaptive • cntr. of robot manipulators  
 [438] – Emergence of effective • rules for cntr. mobile robots using DNA coding method
- [272] – Evol. learning of • cntr. for a mobile robot  
 [193] – Fusion of • NN, GA to the intelligent robotics  
 [152] – GA in continuous space and • classifier syst. for opening of door with manipulator of mobile robot: new benchmark of evol. intelligent computing
- [80] – GAs for the development of • cntr. for autonomous guided vehicles  
 [37] – Gen. tuned • sch. for flexible manufacturing syst.  
 [226] – Gen. -based adaptive • cntr. for robot path planning  
 [190] – Hybrid • cntr. schemes for robotics syst.  
 [430] – Ident. of • cntr. rules utilizing GAs and its appl. to mobile robots
- [363] – Intelligent motion planning by GA with • critic  
 [191] – Intelligent • motion cntr. of mobile robot for service use
- [36] – Linear and non-linear assembly planning: • graph Rep. and GA search  
 [434] – Mechanic human head robot cntr. by a • inference engine
- [233] – Mobile robot • cntr. opt. using GA  
 [218] – Mobile robot • cntr. opt. using GA  
 [368] • critic for robotic motion planning by GA  
 [360] • critic for robotic motion planning by GA in hierarchical intelligent cntr.
- [95] • evol. alg. and automatic robot trajectory generation  
 [172] • potential appr. with the cache gen. learning alg. for robot path planning  
 [188] • syst. for indoor mobile robot navigation
- [41] – Ocean feature recognition using GAs with • fitness functions (GA/F3)  
 [17] – Opt. of • rules by using a GA  
 [113] – Robotic motion planning by GA with • critic  
 [273] – Soft computing paradigms for learning • cntr. with appl. to robotics
- [252] – Stabilization of nonholonomic mobile robots by a GA-based • sliding mode cntr.  
 [164] **fuzzy logic** A wall following robot with a • cntr. optimized by a GA
- [32] – Adaptive • cntr. by GA  
 [127] – Evaluating the wall following behaviour of a mobile robot with •
- [12] – Tuning and opt. of membership functions of • cntr. by GAs
- [330] **fuzzy rule sets** ELF: learning incomplete • for an autonomous robot  
 [120] **fuzzy rules** A new appr. to gen. based machine learning and an efficient finding of •  
 [215] – Pseudo-bacterial GA and finding of •  
 [79] **fuzzy system** Automatic design and tuning of a • for cntr. the Acrobot using GAs, DSFS, and meta-rule techniques
- [163] • modeling and its appl. to mobile robot cntr.  
 [145] **Fuzzy Systems** A New GA for the Evol. of •  
 [187] **fuzzy-ID3** Motion planning of a redundant manipulator - criteria of skilled operators by • and GMDH and opt. by GA
- [199] **fuzzy-logic** Gen. design of • cntr. for robotic manipulators  
 [296] **fuzzy-PID controllers** Design using GAs of hierarchical hybrid • of two-link robotic arms
- [230] **GA\*** Route planning with •  
 [227] **GA-based** A study on • reactive planning syst. of robot manipulators
- [252] – Stabilization of nonholonomic mobile robots by a • fuzzy sliding mode cntr.  
 [323] – Using a new • multiobjective opt. technique for the design of robot arms
- [41] **GA/F3** Ocean feature recognition using GAs with fuzzy fitness functions •  
 [76, 196] **gait** A • acquisition of 6-legged walking robot using immune networks
- [129] – Evol. in multi-agent syst. : Evolving communicating classifier syst. s for • in a quadrapedal robot  
 [171] • coordination of hexapod walking robots using mutual-coupled immune networks
- [436] **game** Evolving robot strategy for open ended •  
 [314] **games** GA based on-line path planning of mobile robots playing soccer •
- [18] **GA-optimization** for rapid prototype syst. demonstration  
 [236] **garbage collecting** Evolving non-trivial behaviors on real robots: A • robot
- [153] **GASC** Opt. dynamic cntr. of a mobile robot by GA with symmetric code – •  
 [228] **gate-level** An evol. robot navigation syst. using a • evolvable hardware
- [399] **Gelenkarmroboter** Ident. der Systemparameter 6-achsiger • mit hilfe der ES [Identification of the syst. parameter of a 6 axis robot with the help of an evol. strategy]  
 [82] **genéticos** Estudio de la coordinación inteligente en robots bípedos: aplicación de lógica borrosa y algoritmos •
- [15] **generalized** GA for the multilevel • assignment problem
- [223] **generated** Robustness of robot prog. • by gen. prog.  
 [287] **Generating** adaptive behavior for a real robot using function regression within gen. prog.
- [340] **Generation** A GA Appl. to Robot Trajectory •  
 [407] – Automatic heuristic rule • for robot task planning - A gen. appr.
- [95] – Fuzzy evol. alg. and automatic robot trajectory •  
 [295] – Motion • of two-link brachiation robot  
 [206] – Nat. motion trajectory • of biped locomotion robot using GA through energy opt.
- [284] – Nat. motion • of biped locomotion robot using hierarchical trajectory • method consisting of GA, EP layers
- [415] • of collision-free paths, a gen. appr.  
 [300] • of opt. fault tolerant locomotion of the hexapod robot over rough terrain using EP
- [248] – Opt. path • of a redundant manipulator with EP  
 [291] – Path • for mobile using GA

- [131] – Path • for mobile robot navigation using GA
- [372, 374] – The automatic • of plans for a mobile robot via gen. prog. with automatically defined functions
- [375] – The gen. planner – The automatic • of plans for a mobile robot via genetic prog. with automatically defined functions
- [373] – The gen. planner: The automatic • of plans for a mobile robot via genetic prog.
- [275] – Virus-evol. GA with subpop. : appl. to trajectory • of redundant manipulator through energy opt.
- [37] **Genetically** tuned fuzzy sch. for flexible manufacturing syst.
- [256] – Practical impl. of • designed computed-torque/fuzzy-logic cntr. for robotic manipulators
- [277] **genetic-based** Investigation into the decoding of • robot motion considering sequential and par. formulations
- [226] • adaptive fuzzy cntr. for robot path planning
- [142] **genetics** Run-time autotuning of a robot cntr. using a • based ML cntr. scheme
- [348] **Genetics-based** machine learning and behaviour based robotics: A new synthesis
- [64] **genetisk** Simuleret skovbrandsbekæmpelse – et eksempel på • baseret maskinindlæring [Simulated forest fire fights – an example of gen. based machine learning]
- [97] **global** Collision free minimum trajectory planning for manipulators using • search and gradient method
- [118] • opt. technique for velocity cntr. of redundant robots
- [421] – The “ARIADNE’S CLEW” alg. : • planning with local methods
- [187] **GMDH** Motion planning of a redundant manipulator - criteria of skilled operators by fuzzy-ID3 and • and opt. by GA
- [293] **God** save the red queen! Competition in co-evol. robotics
- [238] **GP** Evolving real-time behavioral modules for a robot with •
- [267] – Robust • in robot learning
- [97] **gradient method** Collision free minimum trajectory planning for manipulators using global search and •
- [23] **graph** Automatic • drawing by gen. search
- [36] – Linear and non-linear assembly planning: fuzzy • Rep. and GA search
- [45] **graph-matching** Structural • appr. to image understanding
- [276] **grid** Virus-evol. GA – Coevol. of planar • model
- [425] **group** Architecture and impl. issues about learning for a • of mobile robots with a distributable GA
- [69] – Self-organizing robotic syst. . Organization and evol. of • behavior in cellular robotic syst.
- [28] **grouping** A method for extracting outline using the GA based on factors for perceptive •
- [44] – Creating part families with a • GA
- [234] **guided** Acquisition of visually • swing motion based on GA and NN by two-armed bipedal robot
- [377, 384] – Evolving visually • robots
- [89] **hand** Planning focus of attention for multifingered • with consideration of time-varying aspects
- [260] **Handhabungsgeräte** Rechnergestützte Entwurfsmethodik für • mit genetischen Alg. en [Computer-aided design of manipulators with GAs]
- [114] **hands** Evol. robots. our • in their brains?
- [228] **hardware** An evol. robot navigation syst. using a gate-level evolvable •
- [399] **help** Ident. der Systemparameter 6-achsiger Gelenkarmroboter mit Hilfe der ES [Identification of the syst. parameter of a 6 axis robot with the • of an evol. strategy]
- [34] **heterogeneous** Gen. reinforcement learning for sch. • machines
- [246] **heuristic** A • appr. to robot path planning based on task requirements using a GA
- [407] – Automatic • rule generation for robot task planning - A gen. appr.
- [338] – GAs and Robotics: A • strategy for opt.
- [351] – GAs and Robotics: A • Strategy for Opt.
- [216] **hexapod** Appl. of evolved locomotion cntr. to a • robot
- [171] – Gait coordination of • walking robots using mutual-coupled immune networks
- [300] – Generation of opt. fault tolerant locomotion of the • robot over rough terrain using EP
- [296] **hierarchical** Design using GAs of • hybrid fuzzy-PID cntr. of two-link robotic arms
- [360] – Fuzzy critic for robotic motion planning by GA in • intelligent cntr.
- [284] – Nat. motion generation of biped locomotion robot using • trajectory generation method consisting of GA, EP layers
- [315] • intelligent robotic syst. -adaptation, learning and evol.
- [247] – Skill based motion planning in • intelligent cntr. of a redundant manipulator
- [101] **hierarchical structure** GA appl. to maze passing problem of mobile robot - A comparison with the learning perf. of the • stochastic automata
- [441, 442] **hill** Evol. robotics and SAGA: the case for • crawling and tournament sel.
- [264] **homing** Evol. of • navigation in a real mobile robot
- [437] **hull** Opt. cntr. of a flexible • robotic undersea vehicle propelled by an oscillating foil
- [434] **human head** Mechanic • robot cntr. by a fuzzy inference engine
- [296] **hybrid** Design using GAs of hierarchical • fuzzy-PID cntr. of two-link robotic arms
- [13] – Model-based matching using a • GA
- [24] • and distr. GAs for motion cntr.
- [190] • fuzzy cntr. schemes for robotics syst.
- [310] **hydraulic** Robot positioning of a flexible • manipulator utilizing GA and neural networks
- [399] **Identification** Ident. der Systemparameter 6-achsiger Gelenkarmroboter mit Hilfe der ES • of the syst. parameter of a 6 axis robot with the help of an evol. strategy]
- [399] **Identification** der Systemparameter 6-achsiger Gelenkarmroboter mit Hilfe der ES [Ident. of the syst. parameter of a 6 axis robot with the help of an evol. strategy]
- [430] • of fuzzy cntr. rules utilizing GAs and its appl. to mobile robots
- [45] **image** Structural graph-matching appr. to • understanding
- [25] **images** A GA reconstructing surface profiles from linear •
- [53] – Gen. fusion of registered •
- [148] **immune** Micro autonomous robotic syst. and biologically inspired • swarm strategy as a multi agent robotic system
- [76, 196] **immune networks** A gait acquisition of 6-legged walking robot using •
- [141] – Dynamic behavior arbitration of autonomous mobile robots using •
- [171] – Gait coordination of hexapod walking robots using mutual-coupled •
- [299] **immune system** Robot with decentralized consensus-making mechanism based on the •
- [222] **Immunoïd** An immunological appr. to decentralized behavior arbitration of autonomous mobile robots
- [194] **immunological** An • appr. to dynamic behavior cntr. for autonomous mobile robots
- [222] – Immunoïd: An • appr. to decentralized behavior arbitration of autonomous mobile robots
- [422] **implementation** A massively par. • of the ARIADNE’S CLEW alg.
- [425] – Architecture and • issues about learning for a group of mobile robots with a distributable GA
- [329] – GAs appl. to formal neural networks: Par. gen. • of a Boltzmann machine and associated robotic experimentations
- [256] – Practical • of gen. designed computed-torque/fuzzy-logic cntr. for robotic manipulators
- [330] **incomplete** ELF: learning • fuzzy rule sets for an autonomous robot
- [270] **Incremental** An • appr. to developing intelligent neural network cntr. for robots
- [382, 383] • evol. of neural network architectures for adaptive behaviour
- [188] **indoor** Fuzzy syst. for • mobile robot navigation
- [322] **Induction** Evol. Prog. • of Binary Machine Code and its Appl.
- [209] – Gen. rule • in the design of computed-torque/fuzzy-logic cntr. for robotic manipulators
- [240] **industrial** Gen. cntr. of near time-opt. motion for an • robot arm
- [434] **inference engine** Mechanic human head robot cntr. by a fuzzy •
- [183] **information** Cooperative manipulations based on GA using contact •
- [365] – Cooperative search using GA based on local • – Path planning for structure configuration of cellular robot

- [362] – Structural organization of cellular robot based on gen.
- [68] **INK** Putting • into a BIRo: A discussion of problem domain knowledge for evol. robotics
- [134] **innate** From evol. of • behaviors to evolution of learning in robotic agents
- [413] **insect** Evolving artificial • brains for artificial compound eye robotics
- [435] **inspection** Extraction method of failure signal by GA and the appl. to • and diagnosis robot
- [14] • allocation in manufacturing syst. : A GA appr.
- [308] – Study on plant • and diagnosis robot. III. Method of searching a faulty sound source by a manipulator with GAs cntr.
- [148] **inspired** Micro autonomous robotic syst. and biologically • immune swarm strategy as a multi agent robotic system
- [151] **inspiree** Une approche • de la Vie Artificielle pour la synthese d'Agents Autonomes
- [30] **integrated** An • method for cell layout problem using GAs
- [82] **inteligente** Estudio de la coordinación • en robots bipedos: aplicacion de lógica borrosa y algoritmos genéticos
- [344] **intelligence** A bootstrapping appr. to robot • First results
- [285] – Robot • through the concept of evol.
- [352] – Self-organizing • for Cellular Robotic Syst. “CEBOT” with Gen. Knowledge Production Alg.
- [355] – Structure organization using swarm • for cellular robotic syst.
- [318] **intelligent** Adaptation, learning and evol. for • robotic syst.
- [294] – Adaptation, learning, and evol. computing for • robots
- [270] – An Incremental appr. to developing • neural network cntr. for robots
- [193] – Fusion of fuzzy, NN, GA to the • robotics
- [360] – Fuzzy critic for robotic motion planning by GA in hierarchical • cntr.
- [152] – GA in continuous space and fuzzy classifier syst. for opening of door with manipulator of mobile robot: new benchmark of evol. • computing
- [315] – Hierarchical • robotic syst. -adaptation, learning and evol.
- [253] • cntr. for robotic and mechatronic syst. - a review
- [191] • fuzzy motion cntr. of mobile robot for service use
- [363] • motion planning by GA with fuzzy critic
- [140] • operators and opt. gen. based path planning for mobile robots
- [40] • sch. for flexible manufacturing syst.
- [247] – Skill based motion planning in hierarchical • cntr. of a redundant manipulator
- [397] **inter-twined spiral problem** A gen. appr. to the truck backer upper problem and the •
- [278] **Introduction** to the special issue on learning autonomous robots
- [224] **inverse** Easy • kinematics using gen. prog.
- [410] • kinematics of redundant robots using GAs
- [412] **inversion** Gen. • of robot dynamics for trajectory cntr.
- [277] **Investigation** into the decoding of gen. -based robot motion considering sequential and par. formulations
- [282] **Investigations** into robotic multi-joint motion considering multi-criteria opt. using GAs
- [290] **involving** Simulation and opt. of assembly processes • flexibleparts
- [137] **jalanjällillä** Muurahaisten • – kävelevät koneet, robottiyhteisöt ja niiden ohjaus [On foot steps of ants – Walking machines, robot societies and their cntr. ]
- [11] **job-shop scheduling** An evol. appr. to the • problem
- [265] **Joint** cntr. of a walking robot
- [274] – Optimum motion planning in • space for robots using GAs
- [116] – Optimum motion planning in • space using GAs
- [93] **juggling** Evol. by gen. prog. of a spatial robot • cntr. alg.
- [128] **Kiki** Automate pensant
- [174] **kinds** Palletize-planning syst. for multiple • of loads using GA search and traditional search
- [394] **Kinematic** motion planning for redundant robots using GAs
- [224] **kinematics** Easy inverse • using gen. prog.
- [410] – Inverse • of redundant robots using GAs
- [182] • of robot by a new GA technique using artificial sel.
- [259] – Solving the forward • of par. manipulators with a GA
- [359] **knowledge** Knowledge acquisition and distr. decision making - Cellular robotics appr. using GA based on local • and local communication
- [359] • acquisition and distr. decision making - Cellular robotics appr. using GA based on local knowledge and local communication
- [68] – Putting INK into a BIRo: A discussion of problem domain • for evol. robotics
- [352] – Self-organizing Intelligence for Cellular Robotic Syst. “CEBOT” with Gen. • Production Alg.
- [137] **koneet** Muurahaisten jalanjällillä – kävelevät • robottiyhteisöt ja niiden ohjaus [On foot steps of ants – Walking machines, robot societies and their cntr. ]
- [337] **Lamarckian** sub-goal reward in GA
- [258] **land** Evol. of an artificial neural network based autonomous • vehicle cntr.
- [289] **lawnmower problem** The • revisited: Stack-based gen. prog. and automatically defined functions
- [149] **layer** Adaptive two • fuzzy cntr. of a mobile robot syst.
- [284] **layers** Nat. motion generation of biped locomotion robot using hierarchical trajectory generation method consisting of GA, EP •
- [30] **layout** An integrated method for cell • problem using GAs
- [333] **learn** Using analytic and gen. methods to • plans for mobile robots
- [86] – Using GAs to • reactive cntr. behaviours for autonomous robotic navigation
- [70] **learned** About the fitness of simulations whose fuzzy rules are • by GAs
- [198] **learning** A gen. prog. syst. • obstacle avoiding behavior and cntr. a miniature robot in real time
- [318] – Adaptation, • and evol. for intelligent robotic syst.
- [294] – Adaptation, • and evol. computing for intelligent robots
- [111] – Adaptive • of a robot arm
- [158] – Adaptive • using GAs and EP in robotic syst.
- [167] – Alecsys and the autonomous: • to cntr. a real robot by distr. classifier syst.
- [370] – Appl. of GAs to task planning and •
- [425] – Architecture and impl. issues about • for a group of mobile robots with a distributable GA
- [330] – ELF: • incomplete fuzzy rule sets for an autonomous robot
- [272] – Evol. • of fuzzy cntr. for a mobile robot
- [134] – From evol. of innate behaviors to evolution of • in robotic agents
- [172] – Fuzzy potential appr. with the cache gen. • alg. for robot path planning
- [101] – GA appl. to maze passing problem of mobile robot - A comparison with the • perf. of the hierarchical structure stochastic automata
- [20] – Gen. reinforcement • appr. to the machine sch. problem
- [34] – Gen. reinforcement • for sch. heterogeneous machines
- [315] – Hierarchical intelligent robotic syst. -adaptation, • and evol.
- [278] – Introduction to the special issue on • autonomous robots
- [54] – Learning the opt. discriminant function through gen. • alg.
- [219] – Memory-based neural network and its appl. to a mobile robot with evol. and experience •
- [297] – Multiple-agent • for a robot navigation task by gen. prog.
- [26] • a visual task by gen. prog.
- [61] • robot behaviors using GAs
- [366] • scheme for recurrent neural network by GA
- [409, 426] • the behaviour of a simulated moving robot using GAs
- [54] • the opt. discriminant function through gen. learning alg.
- [184] • to adapt to changing environments in evolving neural networks
- [347] • to cntr. an autonomous robot by distr. GAs
- [345] – Organisation of robot behaviour through gen. • process
- [205] – RoboShepherd: • a complex behavior
- [119] – Robot shaping: Developing autonomous agents through •

- [346] – Robot shaping: Developing situated agents through •
- [267] – Robust GP in robot •
- [142] – Run-time autotuning of a robot cntr. using a gen. based machine • cntr. scheme
- [42] – ALECSYS and the AUTONOMOUSE: • to Cntr. a Real Robot by Distr. CSs
- [273] – Soft computing paradigms for • fuzzy cntr. with appl. to robotics
- [286] – Spatial • for robot localization
- [312] – Stabilization cntr. of biped locomotion robot based • with GAs having self-adaptive mutation and recurrent neural networks
- [225] – The use of evol. prog. for • of artificial intelligence syst.
- [392] **learns** An autonomous legged robot that • to walk through simulated evol.
- [392] **legged** An autonomous • robot that learns to walk through simulated evol.
- [432] **legs** Gen. prog. : Evol. of a time dependent neural network module which teaches a pair of stick • to walk
- [75, 107] **light** Seeing the • Artificial evol. , real vision
- [56] **Liikeratojen** optimointi [Robot path planning by Davidor]
- [43] **line balancing** A GA for bin packing and •
- [25] **linear** A GA reconstructing surface profiles from • images
- [36] • and non-linear assembly planning: fuzzy graph Rep. and GA search
- [197] **living** Pre-adaptations in pop. of neural networks • in a changing environment
- [51] **load** A method for economic • dispatching using a GA
- [174] **loads** Palletize-planning syst. for multiple kinds of • using GA search and traditional search
- [365] **local** Cooperative search using GA based on • info – Path planning for structure configuration of cellular robot
- [241] – Gen. prog. and co-evol. : Developing robust general purpose cntr. using • mating in 2-dimensional pop.
- [359] – Knowledge acquisition and distr. decision making - Cellular robotics appr. using GA based on • knowledge and • communication
- [421] – The “ARIADNE’S CLEW” alg. : Global planning with • methods
- [286] **localization** Spatial learning for robot •
- [208] **location** Opt. • of path-following tasks in the workspace of a manipulator using GAs
- [143] – Robust autonomous • cntr. using EP for autonomous mobile robots
- [175] – Study of dynamically reconfigurable robotic syst. (23th report, appl. of GA to opt. • problem on self-organizing manufacturing system)
- [216] **locomotion** Appl. of evolved • cntr. to a hexapod robot
- [300] – Generation of opt. fault tolerant • of the hexapod robot over rough terrain using EP
- [303] – GA for cntr. design of biped •
- [284] – Nat. motion generation of biped • robot using hierarchical trajectory generation method consisting of GA, EP layers
- [206] – Nat. motion trajectory generation of biped • robot using GA through energy opt.
- [312] – Stabilization cntr. of biped • robot based learning with GAs having self-adaptive mutation and recurrent neural networks
- [250] **logic circuit** Gen. evol. of a • which cntr. s an autonomous mobile robot
- [244] **Lyapunov-based** GA tuning of • cntr. : An appl. to single-link flexible robot syst.
- [322] **Machine** Evol. Prog. Induction of Binary • Code and its Appl.
- [20] – Gen. reinforcement learning appr. to the • sch. problem
- [142] – Run-time autotuning of a robot cntr. using a gen. based • learning cntr. scheme
- [120] **machine learning** A new appr. to gen. based • and an efficient finding of fuzzy rules
- [428] – Characterizing the adaptation abilities of a class of gen. based • alg.
- [348] – Gen. -based • and behaviour based robotics: A new synthesis
- [64] – Simuleret skovbrandsbekæmpelse – et eksempel på genetisk baseret maskinindlæring [Simulated forest fire fights – an example of gen. based •
- [84] **machinery** Creation of opt. route for agricultural vehicle and construction • by using a GA
- [34] **machines** Gen. reinforcement learning for sch. heterogeneous •
- [137] – Muurahaisten jalanjällillä – kävelevät koneet, robottiyhteisöt ja niiden ohjaus [On foot steps of ants – Walking • robot societies and their cntr. ]
- [350] **management** Robotics and artificial intelligence: EP for ASAT battle •
- [324] **manipulation** A NN-based classification of environment dynamics for compliant of • robots
- [183] **manipulations** Cooperative • based on GA using contact info
- [304] **manipulator** A gen. appr. to motion planning of redundant mobile • syst. considering safety and configuration
- [65] – Collision avoidance planning of a robot • by using GA - a consideration for the problem in which moving obstacles and/or several robots are included in the workspace
- [268] – Evol. ordered neural network and its appl. to robot • cntr.
- [152] – GA in continuous space and fuzzy classifier syst. for opening of door with • of mobile robot: new benchmark of evol. intelligent computing
- [403] – Mobile • configuration opt. using EP
- [99, 326] – Mobile • path planning by a GA
- [92] – Motion planning for a redundant • by GA
- [311] – Motion planning by GA for a redundant • using a model of criteria of skilled operators
- [195] – Motion planning by GA for a redundant • using an evaluation function based on criteria of skilled operators
- [115] – Motion planning for 3D cutting by a • with 6 degrees of freedom - Opt. by GA
- [200] – Motion planning for a redundant • by GA using an evaluation function extracted from skilled operators
- [187] – Motion planning of a redundant • - criteria of skilled operators by fuzzy-ID3 and GMDH and opt. by GA
- [208] – Opt. location of path-following tasks in the workspace of a • using GAs
- [248] – Opt. path generation of a redundant • with EP
- [96] – Planning a minimum time path for multi-task robot • using micro-GA
- [310] – Robot positioning of a flexible hydraulic • utilizing GA and neural networks
- [247] – Skill based motion planning in hierarchical intelligent cntr. of a redundant •
- [156] – Skill based motion planning of a redundant • by GA
- [308] – Study on plant inspection and diagnosis robot. III. Method of searching a faulty sound source by a • with GAs cntr.
- [279] – Trajectory planning of cellular • syst. using virus-evol. GA
- [281] – Trajectory planning of reconfigurable redundant • using virus-evol. GA
- [283] – Trajectory planning of redundant • using virus-evol. GA
- [275] – Virus-evol. GA with subpop. : appl. to trajectory generation of redundant • through energy opt.
- [395] **Manipulators** A Multi-Pop. GA and its Appl. to Design of •
- [227] – A study on GA-based reactive planning syst. of robot •
- [135] – Adaptive cntr. of robot • with fuzzy supervisor using GAs
- [243] – An estimation method of modeling errors for robot • using a GA
- [339] – An evol. standing on the design of redundant •
- [235] – Appl. of GAs to point-to-point motion of redundant •
- [97] – Collision free minimum trajectory planning for • using global search and gradient method
- [405] – Configuration opt. of mobile • with equality constraints using EP
- [325] – Decentralized adaptive fuzzy cntr. of robot •
- [155] – Estimation of modeling errors for robot • using GA
- [126] – GA based redundancy resolution of robot •
- [431] – Gen. based minimum-time trajectory planning of articulated • with torque constraints
- [122] – Gen. design of computer-torque cntr. for robotic •



- [201] – Gen. design of computer-torque/fuzzy-logic cntr. for robotic •
- [199] – Gen. design of fuzzy-logic cntr. for robotic •
- [203] – Gen. robustification of digital trajectory-tracking cntr. for robotic •
- [209] – Gen. rule induction in the design of computed-torque/fuzzy-logic cntr. for robotic •
- [179] – Neuro-fuzzy-gen. cntr. design for robot •
- [251] – Neuro-gen. adaptive cntr. with appl. to robot •
- [411] – Obstacle avoidance of redundant • using GAs
- [94] – Parameter tuning for robot • using a GA
- [117] – Parameter tuning for robot • using GA
- [186] – Perf. measures in the gen. design of digital cntr. for robotic •
- [256] – Practical impl. of gen. designed computed-torque/fuzzy-logic cntr. for robotic •
- [260] – Rechnergestützte Entwurfsmethodik für Handhabungsgeräte mit genetischen Alg. en [Computer-aided design of • with GAs]
- [259] – Solving the forward kinematics of par. • with a GA
- [14] **manufacturing** Inspection allocation in • syst. : A GA appr.
- [35] • cell formation using distr. evol. alg.
- [175] – Study of dynamically reconfigurable robotic syst. (23th report, appl. of GA to opt. location problem on self-organizing • system)
- [37] **manufacturing systems** Gen. tuned fuzzy sch. for flexible •
- [47] **MAP** Subopt. • estimates using A\* and GAs
- [414] **Mars** Neurocntr. s and vision for • robots
- [64] **maskinindlæring** Simuleret skovbrandsbekæmpelse – et eksempel på genetisk baseret • [Simulated forest fire fights – an example of gen. based machine learning]
- [422] **massively** A • par. impl. of the ARIADNE'S CLEW alg.
- [13] **matching** Model-based • using a hybrid GA
- [241] **mating** Gen. prog. and co-evol. : Developing robust general purpose cntr. using local • in 2-dimensional pop.
- [101] **maze** GA appl. to • passing problem of mobile robot - A comparison with the learning perf. of the hierarchical structure stochastic automata
- [217] – Noisy wall-following and • navigation through gen. prog.
- [186] **measures** Perf. • in the gen. design of digital cntr. for robotic manipulators
- [434] **Mechanic** human head robot cntr. by a fuzzy inference engine
- [98] **mechanical** An evol. solution for the cntr. of • arms
- [62] **mechanism** Appl. of a GA to an actuation • for robotic vision
- [299] – Robot with decentralized consensus-making • based on the immune syst.
- [261] – Robot • synthesis and GAs
- [253] **mechatronic** Intelligent cntr. for robotic and • syst. - a review
- [12] **membership functions** Tuning and opt. of • of fuzzy logic cntr. by GAs
- [313] **memory** Adding • to the Evol. Planner/Navigator
- [317] – Combining robot cntr. strategies using GAs with •
- [219] **Memory-based** neural network and its appl. to a mobile robot with evol. and experience learning
- [79] **meta-rule** Automatic design and tuning of a fuzzy syst. for cntr. the Acrobot using GAs, DSFS, and • techniques
- [51] **method** A • for economic load dispatching using a GA
- [28] – A • for extracting outline using the GA based on factors for perceptive grouping
- [243] – An estimation • of modeling errors for robot manipulators using a GA
- [30] – An integrated • for cell layout problem using GAs
- [237] – An on-line • to evolve behavior and to cntr. a miniature robot in real time with gen. prog.
- [435] – Extraction • of failure signal by GA and the appl. to inspection and diagnosis robot
- [284] – Nat. motion generation of biped locomotion robot using hierarchical trajectory generation • consisting of GA, EP layers
- [220] – Robot path planning by scrap and build fitness •
- [408] – Structural evol. of neural networks having arbitrary connection by a gen. •
- [308] – Study on plant inspection and diagnosis robot. III. • of searching a faulty sound source by a manipulator with GAs cntr.
- [87] **methodology** A gen. • for configuration design
- [421] **methods** The “ARIADNE'S CLEW” alg. : Global planning with local •
- [132] – Three • of training multi-layer perceptrons to model a robot sensor
- [333] – Using analytic and gen. • to learn plans for mobile robots
- [148] **Micro** autonomous robotic syst. and biologically inspired immune swarm strategy as a multi agent robotic system
- [96] **micro-genetic** Planning a minimum time path for multi-task robot manipulator using • alg.
- [198] **miniature** A gen. prog. syst. learning obstacle avoiding behavior and cntr. a • robot in real time
- [237] – An on-line method to evolve behavior and to cntr. a • robot in real time with gen. prog.
- [204] – Gen. prog. cntr. a • robot
- [202] – Real time evol. of behavior and a world model for a • robot using gen. prog.
- [97] **minimum** Collision free • trajectory planning for manipulators using global search and gradient method
- [96] – Planning a • time path for multi-task robot manipulator using micro-GA
- [431] **minimum-time** Gen. based • trajectory planning of articulated manipulators with torque constraints
- [304] **mobile** A gen. appr. to motion planning of redundant • manipulator syst. considering safety and configuration
- [301] – Adaptive evol. planner/navigator for • robots
- [149] – Adaptive two layer fuzzy cntr. of a • robot syst.
- [320] – Applying gen. prog. to evolve behavior primitives and arbitrators for • robots
- [405] – Configuration opt. of • manipulators with equality constraints using EP
- [141] – Dynamic behavior arbitration of autonomous • robots using immune networks
- [249] – Efficient evol. strategies for exploration in • robotics
- [438] – Emergence of effective fuzzy rules for cntr. • robots using DNA coding method
- [181] – Evol. and • autonomous robotics
- [124] – Evol. of neural cntr. structures: some experiments on • robots
- [272] – Evol. learning of fuzzy cntr. for a • robot
- [147] – Evolving • robots in simulated and real environments
- [188] – Fuzzy syst. for indoor • robot navigation
- [314] – GA based on-line path planning of • robots playing soccer games
- [292] – Gen. prog. for • robot wall-following alg.
- [191] – Intelligent fuzzy motion cntr. of • robot for service use
- [403] • manipulator configuration opt. using EP
- [99, 326] • manipulator path planning by a GA
- [233] • robot fuzzy cntr. opt. using GA
- [402] • robot path planning using EP
- [328] • transporter path planning using a GA appr.
- [125] – Opt. motion planning for • robots using GAs
- [271] – Opt. of path planning of • robots
- [291] – Path generation for • using GA
- [166] – Position estimation for • robot using sensor fusion
- [157] – Robust cntr. of non-holonomic wheeled • robot based on EP for opt. motion
- [130] – Safety considerations in the opt. of paths for • robots using GAs
- [127] **mobile robot** Evaluating the wall following behaviour of a • with fuzzy logic
- [264] – Evol. of homing navigation in a real •
- [123] – Evol. of subsumption architecture that perform a wall following task for an autonomous • via gen. prog.
- [108] – Evol. alg. for path planning in • environment
- [73, 406] – Evol. navigator for a •
- [163] – Fuzzy syst. modeling and its appl. to • cntr.
- [152] – GA in continuous space and fuzzy classifier syst. for opening of door with manipulator of • new benchmark of evol. intelligent computing
- [101] – GA appl. to maze passing problem of • - A comparison with the learning perf. of the hierarchical structure stochastic automata
- [250] – Gen. evol. of a logic circuit which cntr. s an autonomous •
- [219] – Memory-based neural network and its appl. to a • with evol. and experience learning
- [218] • fuzzy cntr. opt. using GA
- [153] – Opt. dynamic cntr. of a • by GA with symmetric code – GASC

- [131] – Path generation for • navigation using GA
- [372, 374] – The automatic generation of plans for a • via gen. prog. with automatically defined functions
- [375] – The gen. planner – The automatic generation of plans for a • via genetic prog. with automatically defined functions
- [373] – The gen. planner: The automatic generation of plans for a • via genetic prog.
- [194] **mobile robots** An immunological appr. to dynamic behavior cntr. for autonomous •
- [425] – Architecture and impl. issues about learning for a group of • with a distributable GA
- [430] – Ident. of fuzzy cntr. rules utilizing GAs and its appl. to •
- [222] – Immunoid: An immunological appr. to decentralized behavior arbitration of autonomous •
- [140] – Intelligent operators and opt. gen. based path planning for •
- [357] – Path-planning for multiple • by GAs
- [143] – Robust autonomous location cntr. using EP for autonomous •
- [252] – Stabilization of nonholonomic • by a GA-based fuzzy sliding mode cntr.
- [333] – Using analytic and gen. methods to learn plans for •
- [252] **mode** Stabilization of nonholonomic mobile robots by a GA-based fuzzy sliding • cntr.
- [176] **model** A fuzzy • for evol. of behaviours in robotics
- [39] – A GA embedded dynamic search alg. over a Petri net • for an FMS sch.
- [311] – Motion planning by GA for a redundant manipulator using a • of criteria of skilled operators
- [132] – Three methods of training multi-layer perceptrons to • a robot sensor
- [276] – Virus-evol. GA – Coevol. of planar grid •
- [13] **Model-based** matching using a hybrid GA
- [243] **modeling** An estimation method of • errors for robot manipulators using a GA
- [155] – Estimation of • errors for robot manipulators using GA
- [163] – Fuzzy syst. • and its appl. to mobile robot cntr.
- [269] **modular** Cache-gen. -based • fuzzy neural network for robot path planning
- [170] – Determining task opt. • robot assembly configurations
- [33] – Gen. task clustering for • neural networks
- [263] – Syst. -level • design appr. to field robotics
- [432] **module** Gen. prog. : Evol. of a time dependent neural network • which teaches a pair of stick legs to walk
- [238] **modules** Evolving real-time behavioral • for a robot with GP
- [302] **morphology** Evolving robot •
- [304] **motion** A gen. appr. to • planning of redundant mobile manipulator syst. considering safety and configuration
- [66] – A gen. solution for the • of wheeled robotic syst. in dynamic environments
- [234] – Acquisition of visually guided swing • based on GA and NN by two-armed bipedal robot
- [154] – An evol. alg. for collision free • planning of multi-arm robots
- [235] – Appl. of GAs to point-to-point • of redundant manipulators
- [368] – Fuzzy critic for robotic • planning by GA
- [360] – Fuzzy critic for robotic • planning by GA in hierarchical intelligent cntr.
- [240] – Gen. cntr. of near time-opt. • for an industrial robot arm
- [24] – Hybrid and distr. GAs for • cntr.
- [191] – Intelligent fuzzy • cntr. of mobile robot for service use
- [363] – Intelligent • planning by GA with fuzzy critic
- [277] – Investigation into the decoding of gen. -based robot • considering sequential and par. formulations
- [282] – Investigations into robotic multi-joint • considering multi-criteria opt. using GAs
- [394] – Kinematic • planning for redundant robots using GAs
- [284] – Nat. • generation of biped locomotion robot using hierarchical trajectory generation method consisting of GA, EP layers
- [206] – Nat. • trajectory generation of biped locomotion robot using GA through energy opt.
- [295] • generation of two-link brachiation robot
- [92] • planning for a redundant manipulator by GA
- [311] • planning by GA for a redundant manipulator using a model of criteria of skilled operators
- [195] • planning by GA for a redundant manipulator using an evaluation function based on criteria of skilled operators
- [115] • planning for 3D cutting by a manipulator with 6 degrees of freedom - Opt. by GA
- [200] • planning for a redundant manipulator by GA using an evaluation function extracted from skilled operators
- [187] • planning of a redundant manipulator - criteria of skilled operators by fuzzy-ID3 and GMDH and opt. by GA
- [125] – Opt. • planning for mobile robots using GAs
- [274] – Optimum • planning in joint space for robots using GAs
- [116] – Optimum • planning in joint space using GAs
- [417] – Par. robot • planning in a dynamic environment
- [423] – Par. • planning with the ARIADNE'S CLEW alg.
- [419] – Robot • planning with the ARIADNE'S CLEW Alg.
- [113] – Robotic • planning by GA with fuzzy critic
- [157] – Robust cntr. of non-holonomic wheeled mobile robot based on EP for opt. •
- [247] – Skill based • planning in hierarchical intelligent cntr. of a redundant manipulator
- [156] – Skill based • planning of a redundant manipulator by GA
- [280] – Transputer based GA • cntr. for PUMA robot
- [416, 424] – Using GAs for robot • planning
- [138] **movement** The appl. of gen. prog. to cooperative • planning and execution
- [65] **moving** Collision avoidance planning of a robot manipulator by using GA - a consideration for the problem in which • obstacles and/or several robots are included in the workspace
- [427] – GAs and CSs for an Autonomous • Robot
- [409, 426] – Learning the behaviour of a simulated • robot using GAs
- [169] • the frontiers between robotics and biology
- [148] **multi** Micro autonomous robotic syst. and biologically inspired immune swarm strategy as a • agent robotic system
- [214] **multi-agent** Coordination-based cooperation protocol in • robotic syst.
- [46] – Coordinative behavior by GA and fuzzy in evol. • syst.
- [358] – Coordinative behavior in evol. • syst. by GA
- [129] – Evol. in • syst. : Evolving communicating classifier syst. s for gait in a quadrapedal robot
- [212] – Evol. computing in • environments: speciation and symbiogenesis
- [361] **multi-agent-robot** Coordinative balancing in evol. • syst. using GA
- [364] **Multi-Agent-Robot** Coordinative Behavior in Evol. • Syst.
- [90] **multi-agent-robotic** Coordination in evol. • syst. using fuzzy and GA
- [154] **multi-arm** An evol. alg. for collision free motion planning of • robots
- [282] **multi-criteria** Investigations into robotic multi-joint motion considering • opt. using GAs
- [404] **multi-dimensional** An EP appr. to • path planning
- [49] **Multidimensional** Expert Rule Acquisition and Refinement by GA - An Appr. to • Problems
- [89] **multifingered** Planning focus of attention for • hand with consideration of time-varying aspects
- [369] **multi-heuristic** GAs for the development of real-time • search strategies
- [282] **multi-joint** Investigations into robotic • motion considering multi-criteria opt. using GAs
- [132] **multi-layer** Three methods of training • perceptrons to model a robot sensor
- [15] **multilevel** GA for the • generalized assignment problem
- [165] **Multiobjective** design opt. of counterweight balancing of a robot arm using GAs
- [323] – Using a new GA-based • opt. technique for the design of robot arms
- [297] **Multiple-agent** learning for a robot navigation task by gen. prog.
- [395] **Multi-Population** A • GA and its Appl. to Design of Manipulators
- [288] **multi-skilled** A • robot that recognizes and responds to different problem environments
- [96] **multi-task** Planning a minimum time path for • robot manipulator using micro-GA
- [312] **mutation** Stabilization cntr. of biped locomotion robot based learning with GAs having self-adaptive • and recurrent neural networks

- [171] **mutual-coupled** Gait coordination of hexapod walking robots using • immune networks
- [137] **Muurahaisten** jalanjäljillä – kävelevät koneet, robottiyhteisöt ja niiden ohjaus [On foot steps of ants – Walking machines, robot societies and their cntr. ]
- [284] **Natural** motion generation of biped locomotion robot using hierarchical trajectory generation method consisting of GA, EP layers
- [206] • motion trajectory generation of biped locomotion robot using GA through energy opt.
- [228] **navigation** An evol. robot • syst. using a gate-level evolvable hardware
- [264] – Evol. of homing • in a real mobile robot
- [188] – Fuzzy syst. for indoor mobile robot •
- [297] – Multiple-agent learning for a robot • task by gen. prog.
- [217] – Noisy wall-following and maze • through gen. prog.
- [59] – On robot • using a GA
- [58] – On robot • using a GA
- [131] – Path generation for mobile robot • using GA
- [393] – Study on an autonomous robot • problem using a CS
- [168] – Terrain-Aided • Using the Viterbi Alg.
- [86] – Using GAs to learn reactive cntr. behaviours for autonomous robotic •
- [73, 406] **navigator** Evol. • for a mobile robot
- [31] **n-BDD** Self adaptation of agent's behavior using GA with •
- [324] **network-based** A neural • classification of environment dynamics for compliant of manipulation robots
- [379, 388] **networks** Analysing recurrent dynamical • evolved for robot cntr.
- [381] – Evolving Recurrent Dynamical • for Robot Cntr.
- [390, 391] – General visual robot cntr. • via artificial evol.
- [324] **neural** A • network-based classification of environment dynamics for compliant of manipulation robots
- [124] – Evol. of • cntr. structures: some experiments on mobile robots
- [270] **neural network** An Incremental appr. to developing intelligent • cntr. for robots
- [269] – Cache-gen. -based modular fuzzy • for robot path planning
- [258] – Evol. of an artificial • based autonomous land vehicle cntr.
- [268] – Evol. ordered • and its appl. to robot manipulator cntr.
- [146] – From the chromosome to the •
- [401] – Gen. prog. appr. to the construction of a • for cntr. of a walking robot
- [432] – Gen. prog. : Evol. of a time dependent • module which teaches a pair of stick legs to walk
- [382, 383] – Incremental evol. of • architectures for adaptive behaviour
- [366] – Learning scheme for recurrent • by GA
- [219] – Memory-based • and its appl. to a mobile robot with evol. and experience learning
- [106] • synthesis using cellular encoding and the GA
- [329] **neural networks** GAs appl. to formal • Par. gen. impl. of a Boltzmann machine and associated robotic experiments
- [133] – Gen. synthesis of task oriented •
- [33] – Gen. task clustering for modular •
- [184] – Learning to adapt to changing environments in evolving •
- [197] – Pre-adaptations in pop. of • living in a changing environment
- [310] – Robot positioning of a flexible hydraulic manipulator utilizing GA and •
- [312] – Stabilization cntr. of biped locomotion robot based learning with GAs having self-adaptive mutation and recurrent •
- [408] – Structural evol. of • having arbitrary connection by a gen. method
- [257] **neurocontrollers** Experiments in evol. synthesis of robot •
- [414] **Neurocontrols** and vision for Mars robots
- [179] **Neuro-fuzzy-genetic** cntr. design for robot manipulators
- [232] **neurogenesis** Artificial • an appl. to autonomous robotics
- [251] **Neuro-genetic** adaptive cntr. with appl. to robot manipulators
- [137] **niiden** Muurahaisten jalanjäljillä – kävelevät koneet, robottiyhteisöt ja • ohjaus [On foot steps of ants – Walking machines, robot societies and their cntr. ]
- [234] **NN** Acquisition of visually guided swing motion based on GA and • by two-armed bipedal robot
- [193] – Fusion of fuzzy, • GA to the intelligent robotics
- [112] **noisy** Evol. of corridor following behavior in a • world
- [217] • wall-following and maze navigation through gen. prog.
- [157] **non-holonomic** Robust cntr. of • wheeled mobile robot based on EP for opt. motion
- [252] **nonholonomic** Stabilization of • mobile robots by a GA-based fuzzy sliding mode cntr.
- [36] **non-linear** Linear and • assembly planning: fuzzy graph Rep. and GA search
- [236] **non-trivial** Evolving • behaviors on real robots: A garbage collecting robot
- [150] – Evolving • behaviors on real robots: An autonomous robot that pick up objects
- [150] **objects** Evolving non-trivial behaviors on real robots: An autonomous robot that pick up •
- [198] **obstacle** A gen. prog. syst. learning • avoiding behavior and cntr. a miniature robot in real time
- [411] • avoidance of redundant manipulators using GAs
- [211] – Vision-based • Avoidance: A Coevol. Appr.
- [65] **obstacles** Collision avoidance planning of a robot manipulator by using GA - a consideration for the problem in which moving • and/or several robots are included in the workspace
- [41] **Ocean** feature recognition using GAs with fuzzy fitness functions (GA/F3)
- [137] **ohjaus** Muurahaisten jalanjäljillä – kävelevät koneet, robottiyhteisöt ja niiden • [On foot steps of ants – Walking machines, robot societies and their cntr. ]
- [237] **on-line** An • method to evolve behavior and to cntr. a miniature robot in real time with gen. prog.
- [314] – GA based • path planning of mobile robots playing soccer games
- [436] **open** Evolving robot strategy for • ended game
- [152] **opening** GA in continuous space and fuzzy classifier syst. for • of door with manipulator of mobile robot: new benchmark of evol. intelligent computing
- [192] **operation** Evolving of a fitness based • strategy for a robot society
- [105, 266] **operations** An appl. of evol. alg. to the sch. of robotic •
- [140] **operators** Intelligent • and opt. gen. based path planning for mobile robots
- [311] – Motion planning by GA for a redundant manipulator using a model of criteria of skilled •
- [195] – Motion planning by GA for a redundant manipulator using an evaluation function based on criteria of skilled •
- [200] – Motion planning for a redundant manipulator by GA using an evaluation function extracted from skilled •
- [187] – Motion planning of a redundant manipulator - criteria of skilled • by fuzzy-ID3 and GMDH and opt. by GA
- [84] **optimal** Creation of • route for agricultural vehicle and construction machinery by using a GA
- [170] – Determining task • modular robot assembly configurations
- [300] – Generation of • fault tolerant locomotion of the hexapod robot over rough terrain using EP
- [78] – GA and simulated annealing for • robot arm PID cntr.
- [400] – GAs for the • dynamic cntr. of robot arms
- [140] – Intelligent operators and • gen. based path planning for mobile robots
- [54] – Learning the • discriminant function through gen. learning alg.
- [437] • cntr. of a flexible hull robotic undersea vehicle propelled by an oscillating foil
- [153] • dynamic cntr. of a mobile robot by GA with symmetric code – GASC
- [208] • location of path-following tasks in the workspace of a manipulator using GAs
- [125] • motion planning for mobile robots using GAs
- [248] • path generation of a redundant manipulator with EP
- [254] • planning of robot calibration experiments by GAs
- [349] • routing of multiple autonomous underwater vehicles through evol. prog.
- [433] – On finding the • GAs for robot cntr. problems
- [157] – Robust cntr. of non-holonomic wheeled mobile robot based on EP for • motion

- [309] – Sel. of • construction robot using GAs
- [175] – Study of dynamically reconfigurable robotic syst. (23th report, appl. of GA to • location problem on self-organizing manufacturing system)
- [282] **optimisation** Investigations into robotic multi-joint motion considering multi-criteria • using GAs
- [130] – Safety considerations in the • of paths for mobile robots using GAs
- [12] – Tuning and • of membership functions of fuzzy logic cntr. by GAs
- [29] **Optimising** the parameters for GA evolving of a 1-D cellular automaton
- [405] **optimization** Configuration • of mobile manipulators with equality constraints using EP
- [338] – GAs and Robotics: A heuristic strategy for •
- [351] – GAs and Robotics: A Heuristic Strategy for •
- [118] – Global • technique for velocity cntr. of redundant robots
- [403] – Mobile manipulator configuration • using EP
- [233] – Mobile robot fuzzy cntr. • using GA
- [218] – Mobile robot fuzzy cntr. • using GA
- [115] – Motion planning for 3D cutting by a manipulator with 6 degrees of freedom - • by GA
- [187] – Motion planning of a redundant manipulator - criteria of skilled operators by fuzzy-ID3 and GMDH and • by GA
- [165] – Multiobjective design • of counterweight balancing of a robot arm using GAs
- [206] – Nat. motion trajectory generation of biped locomotion robot using GA through energy •
- [17] • of fuzzy rules by using a GA
- [271] • of path planning of mobile robots
- [290] – Simulation and • of assembly processes involving flexibleparts
- [323] – Using a new GA-based multiobjective • technique for the design of robot arms
- [275] – Virus-evol. GA with subpop. : appl. to trajectory generation of redundant manipulator through energy •
- [164] **optimized** A wall following robot with a fuzzy logic cntr. • by a GA
- [38] **Optimizing** context-based stereo using gen. feature sel.
- [161] • the perf. of a robot society in structured environment through GAs
- [56] **optimointi** Liikeratojen • [Robot path planning by Davidor]
- [274] **Optimum** motion planning in joint space for robots using GAs
- [116] • motion planning in joint space using GAs
- [335] **order** GAs for • dependent processes appl. to robot path-planning
- [268] **ordered** Evol. • neural network and its appl. to robot manipulator cntr.
- [345] **Organisation** of robot behaviour through gen. learning process
- [69] **Organization** Self-organizing robotic syst. • and evol. of group behavior in cellular robotic syst.
- [362] – Structural • of cellular robot based on gen. info
- [355] – Structure • using swarm intelligence for cellular robotic syst.
- [133] **oriented** Gen. synthesis of task • neural networks
- [437] **oscillating** Opt. cntr. of a flexible hull robotic undersea vehicle propelled by an • foil
- [114] **our** Evol. robots. • hands in their brains?
- [177] **outdoor** A GA for • robot path planning
- [185] – A GA for • robot path planning
- [39] **over** A GA embedded dynamic search alg. • a Petri net model for an FMS sch.
- [300] – Generation of opt. fault tolerant locomotion of the hexapod robot • rough terrain using EP
- [48] **packing** Auto tuning of 3-D • rules using GAs
- [432] **pair** Gen. prog. : Evol. of a time dependent neural network module which teaches a • of stick legs to walk
- [174] **Palletize-planning** syst. for multiple kinds of loads using GA search and traditional search
- [273] **paradigms** Soft computing • for learning fuzzy cntr. with appl. to robotics
- [332] **parallèles** Alg. génétiques • pour la planification de trajectoires de robots en environnement dynamique
- [422] **parallel** A massively • impl. of the ARIADNE'S CLEW alg.
- [329] – GAs appl. to formal neural networks: • gen. impl. of a Boltzmann machine and associated robotic experimentations
- [277] – Investigation into the decoding of gen. -based robot motion considering sequential and • formulations
- [423] • motion planning with the ARIADNE'S CLEW alg.
- [417] • robot motion planning in a dynamic environment
- [259] – Solving the forward kinematics of • manipulators with a GA
- [399] **parameter** Ident. der Systemparameter 6-achsiger Gelenkarmroboter mit hilfe der ES [Identification of the syst. • of a 6 axis robot with the help of an evol. strategy]
- [91] • determination for a GA appl. to robot cntr.
- [94] • tuning for robot manipulators using a GA
- [117] • tuning for robot manipulators using GA
- [29] **parameters** Optimising the • for GA evolving of a 1-D cellular automaton
- [101] **passing** GA appl. to maze • problem of mobile robot - A comparison with the learning perf. of the hierarchical structure stochastic automata
- [177] **path** A GA for outdoor robot • planning
- [246] – A heuristic appr. to robot • planning based on task requirements using a GA
- [404] – An EP appr. to multi-dimensional • planning
- [365] – Cooperative search using GA based on local info – • planning for structure configuration of cellular robot
- [108] – Evol. alg. for • planning in mobile robot environment
- [172] – Fuzzy potential appr. with the cache gen. learning alg. for robot • planning
- [56] – Liikeratojen optimointi [Robot • planning by Davidor]
- [402] – Mobile robot • planning using EP
- [291] • generation for mobile using GA
- [131] • generation for mobile robot navigation using GA
- [367] • Planning using GAs (2nd Report, selfish planning and coordinative planning for multiple robot syst. )
- [248] – Opt. • generation of a redundant manipulator with EP
- [271] – Opt. of • planning of mobile robots
- [96] – Planning a minimum time • for multi-task robot manipulator using micro-GA
- [220] – Robot • planning by scrap and build fitness method
- [327] – Robot • planning using a GA
- [189] – Robot • planning using GAs
- [63] – The Ariadne's clew alg. : A general planning technique, Appl. to automatic • planning
- [185] **path planning** A GA for outdoor robot •
- [307] – A gen. • alg. for redundant articulated robots
- [269] – Cache-gen. -based modular fuzzy neural network for robot •
- [314] – GA based on-line • of mobile robots playing soccer games
- [226] – Gen. -based adaptive fuzzy cntr. for robot •
- [140] – Intelligent operators and opt. gen. based • for mobile robots
- [99, 326] – Mobile manipulator • by a GA
- [328] – Mobile transporter • using a GA appr.
- [208] **path-following** Opt. location of • tasks in the workspace of a manipulator using GAs
- [335] **path-planning** GAs for order dependent processes appl. to robot •
- [357] • for multiple mobile robots by GAs
- [415] **paths** Generation of collision-free • a gen. appr.
- [130] – Safety considerations in the opt. of • for mobile robots using GAs
- [128] **pensant** Kiki Automate •
- [28] **perceptive** A method for extracting outline using the GA based on factors for • grouping
- [132] **perceptrons** Three methods of training multi-layer • to model a robot sensor
- [123] **perform** Evol. of subsumption architecture that • a wall following task for an autonomous mobile robot via gen. prog.
- [101] **performance** GA appl. to maze passing problem of mobile robot - A comparison with the learning • of the hierarchical structure stochastic automata
- [186] • measures in the gen. design of digital cntr. for robotic manipulators
- [161] – Opt. the • of a robot society in structured environment through GAs
- [103] **personal** Robo sapiens: a • assistant robot
- [39] **Petri net** A GA embedded dynamic search alg. over a • model for an FMS sch.
- [231] **physical** Challenges in evolving cntr. for • robots
- [150] **pick up** Evolving non-trivial behaviors on real robots: An autonomous robot that • objects

- [78] **PID** GA and simulated annealing for opt. robot arm • cntr.
- [276] **planar** Virus-evol. GA - Coevol. of • grid model
- [332] **planification** Alg. génétiques parallèles pour la • de trajectoires de robots en environnement dynamique
- [418] - Un alg. e génétique pour la • stochastique de trajectoires en robotique
- [375] **planner** The gen. • - The automatic generation of plans for a mobile robot via genetic prog. with automatically defined functions
- [373] - The gen. • The automatic generation of plans for a mobile robot via genetic prog.
- [301] **planner/navigator** Adaptive evol. • for mobile robots
- [313] **Planner/Navigator** Adding memory to the Evol. •
- [92] **planning** Motion • for a redundant manipulator by GA
- [125] - Opt. motion • for mobile robots using GAs
- [177] **planning** A GA for outdoor robot path •
- [304] - A gen. appr. to motion • of redundant mobile manipulator syst. considering safety and configuration
- [74] - A gen. technique for robotic trajectory •
- [246] - A heuristic appr. to robot path • based on task requirements using a GA
- [227] - A study on GA-based reactive • syst. of robot manipulators
- [154] - An evol. alg. for collision free motion • of multi-arm robots
- [404] - An EP appr. to multi-dimensional path •
- [356] - Appl. of GA for distr. decision making: • for structure configuration of cellular robotic syst.
- [370] - Appl. of GAs to task • and learning
- [298] - Assembly • considering a posture of a subassembly-search of a posture of a subassembly to avoid collision using GA
- [407] - Automatic heuristic rule generation for robot task • - A gen. appr.
- [97] - Collision free minimum trajectory • for manipulators using global search and gradient method
- [65] - Collision avoidance • of a robot manipulator by using GA - a consideration for the problem in which moving obstacles and/or several robots are included in the workspace
- [365] - Cooperative search using GA based on local info - Path • for structure configuration of cellular robot
- [440] - Coordinate • using GA - structure configuration of cellular robotic syst.
- [108] - Evol. alg. for path • in mobile robot environment
- [368] - Fuzzy critic for robotic motion • by GA
- [360] - Fuzzy critic for robotic motion • by GA in hierarchical intelligent cntr.
- [172] - Fuzzy potential appr. with the cache gen. learning alg. for robot path •
- [431] - Gen. based minimum-time trajectory • of articulated manipulators with torque constraints
- [363] - Intelligent motion • by GA with fuzzy critic
- [394] - Kinematic motion • for redundant robots using GAs
- [56] - Liikeratojen optimointi [Robot path • by Davidor]
- [402] - Mobile robot path • using EP
- [311] - Motion • by GA for a redundant manipulator using a model of criteria of skilled operators
- [195] - Motion • by GA for a redundant manipulator using an evaluation function based on criteria of skilled operators
- [115] - Motion • for 3D cutting by a manipulator with 6 degrees of freedom - Opt. by GA
- [200] - Motion • for a redundant manipulator by GA using an evaluation function extracted from skilled operators
- [187] - Motion • of a redundant manipulator - criteria of skilled operators by fuzzy-ID3 and GMDH and opt. by GA
- [96] • a minimum time path for multi-task robot manipulator using micro-GA
- [89] • focus of attention for multifingered hand with consideration of time-varying aspects
- [254] - Opt. • of robot calibration experiments by GAs
- [271] - Opt. of path • of mobile robots
- [274] - Optimum motion • in joint space for robots using GAs
- [116] - Optimum motion • in joint space using GAs
- [423] - Par. motion • with the ARIADNE'S CLEW alg.
- [417] - Par. robot motion • in a dynamic environment
- [367] - Path Planning using GAs (2nd Report, selfish • and coordinative • for multiple robot syst. )
- [367] - Path • using GAs (2nd Report, selfish planning and coordinative planning for multiple robot syst. )
- [419] - Robot motion • with the ARIADNE'S CLEW Alg.
- [220] - Robot path • by scrap and build fitness method
- [327] - Robot path • using a GA
- [189] - Robot path • using GAs
- [102] - Robot trajectory • and collision avoidance using GAs
- [239] - Robot trajectory • using a GA
- [113] - Robotic motion • by GA with fuzzy critic
- [353] - Selfish and coordinative • for multiple robots by GAs
- [247] - Skill based motion • in hierarchical intelligent cntr. of a redundant manipulator
- [156] - Skill based motion • of a redundant manipulator by GA
- [138] - The appl. of gen. prog. to cooperative movement • and execution
- [63] - The Ariadne's clew alg. : A general • technique, Appl. to automatic path •
- [421] - The "ARIADNE'S CLEW" alg. : Global • with local methods
- [279] - Trajectory • of cellular manipulator syst. using virus-evol. GA
- [281] - Trajectory • of reconfigurable redundant manipulator using virus-evol. GA
- [283] - Trajectory • of redundant manipulator using virus-evol. GA
- [104] - Trajectory • of robots: a GA appr.
- [416, 424] - Using GAs for robot motion •
- [85] - Vehicle route • with constraints using GAs
- [372, 374] **plans** The automatic generation of • for a mobile robot via gen. prog. with automatically defined functions
- [375] - The gen. planner - The automatic generation of • for a mobile robot via genetic prog. with automatically defined functions
- [373] - The gen. planner: The automatic generation of • for a mobile robot via genetic prog.
- [333] - Using analytic and gen. methods to learn • for mobile robots
- [308] **plant** Study on • inspection and diagnosis robot. III. Method of searching a faulty sound source by a manipulator with GAs cntr.
- [314] **playing** GA based on-line path planning of mobile robots • soccer games
- [235] **point-to-point** Appl. of GAs to • motion of redundant manipulators
- [241] **populations** Gen. prog. and co-evol. : Developing robust general purpose cntr. using local mating in 2-dimensional •
- [197] - Pre-adaptations in • of neural networks living in a changing environment
- [166] **Position** estimation for mobile robot using sensor fusion
- [310] **positioning** Robot • of a flexible hydraulic manipulator utilizing GA and neural networks
- [298] **posture** Assembly planning considering a • of a subassembly-search of a • of a subassembly to avoid collision using GA
- [172] **potential** Fuzzy • appr. with the cache gen. learning alg. for robot path planning
- [50] **Power** syst. decomposition using a simulated evol. technique
- [256] **Practical** impl. of gen. designed computed-torque/fuzzy-logic cntr. for robotic manipulators
- [197] **Pre-adaptations** in pop. of neural networks living in a changing environment
- [320] **primitives** Applying gen. prog. to evolve behavior • and arbitrators for mobile robots
- [288] **problem** A multi-skilled robot that recognizes and responds to different • environments
- [11] - An evol. appr. to the job-shop sch. •
- [30] - An integrated method for cell layout • using GAs
- [319] - Appl. of GA to sch. • of robot cntr. computation
- [65] - Collision avoidance planning of a robot manipulator by using GA - a consideration for the • in which moving obstacles and/or several robots are included in the workspace
- [101] - GA appl. to maze passing • of mobile robot - A comparison with the learning perf. of the hierarchical structure stochastic automata
- [229] - GA for robot sel. and work station assignment •
- [15] - GA for the multilevel generalized assignment •
- [20] - Gen. reinforcement learning appr. to the machine sch. •
- [68] - Putting INK into a BIRo: A discussion of • domain knowledge for evol. robotics

- [175] - Study of dynamically reconfigurable robotic syst. (23th report, appl. of GA to opt. location • on self-organizing manufacturing system)
- [393] - Study on an autonomous robot navigation • using a CS
- [49] **Problems** Expert Rule Acquisition and Refinement by GA - An Appr. to Multidimensional •
- [19] - GAs for decision •
- [433] - On finding the opt. GAs for robot cntr. •
- [345] **process** Organisation of robot behaviour through gen. learning •
- [335] **processes** GAs for order dependent • appl. to robot path-planning
- [290] - Simulation and opt. of assembly • involving flexible parts
- [305] **produce** Using co-evol. to • robust robot cntr.
- [352] **Production** Self-organizing Intelligence for Cellular Robotic Syst. "CEBOT" with Gen. Knowledge • Alg.
- [25] **profiles** A GA reconstructing surface • from linear images
- [158] **programming** Adaptive learning using GAs and evol. • in robotic syst.
- [404] - An evol. • appr. to multi-dimensional path planning
- [320] - Applying gen. • to evolve behavior primitives and arbitrators for mobile robots
- [396] - Automatic • of robots using gen. prog.
- [405] - Configuration opt. of mobile manipulators with equality constraints using evol. •
- [300] - Generation of opt. fault tolerant locomotion of the hexapod robot over rough terrain using evol. •
- [342] - GAs for autonomous robot •
- [26] - Learning a visual task by gen. •
- [403] - Mobile manipulator configuration opt. using evol. •
- [402] - Mobile robot path planning using evol. •
- [248] - Opt. path generation of a redundant manipulator with evol. •
- [336] - Robot • with a GA
- [350] - Robotics and artificial intelligence: Evol. • for ASAT battle management
- [143] - Robust autonomous location cntr. using evol. • for autonomous mobile robots
- [157] - Robust cntr. of non-holonomic wheeled mobile robot based on evol. • for opt. motion
- [437] **propelled** Opt. cntr. of a flexible hull robotic undersea vehicle • by an oscillating foil
- [214] **protocol** Coordination-based cooperation • in multi-agent robotic syst.
- [18] **prototype** GA-opt. for rapid • syst. demonstration
- [215] **Pseudo-bacterial** GA and finding of fuzzy rules
- [280] **PUMA** Transputer based GA motion cntr. for • robot
- [129] **quadrupedal** Evol. in multi-agent syst. : Evolving communicating classifier syst. s for gait in a • robot
- [293] **queen** God save the red • Competition in co-evol. robotics
- [227] **reactive** A study on GA-based • planning syst. of robot manipulators
- [86] - Using GAs to learn • cntr. behaviours for autonomous robotic navigation
- [167] **real** Alecsys and the autonomous: learning to cntr. a • robot by distr. classifier syst.
- [331] - Artificial life and • robots
- [306] - Comparing • and simulated evol. robotics.
- [264] - Evol. of homing navigation in a • mobile robot
- [147] - Evolving mobile robots in simulated and • environments
- [236] - Evolving non-trivial behaviors on • robots: A garbage collecting robot
- [150] - Evolving non-trivial behaviors on • robots: An autonomous robot that pick up objects
- [287] - Generating adaptive behavior for a • robot using function regression within gen. prog.
- [42] - ALECSYS and the AUTONOUSE: Learning to Cntr. a • Robot by Distr. CSS
- [75, 107] - Seeing the light: Artificial evol. , • vision
- [198] **real time** A gen. prog. syst. learning obstacle avoiding behavior and cntr. a miniature robot in •
- [237] - An on-line method to evolve behavior and to cntr. a miniature robot in • with gen. prog.
- [202] • evol. of behavior and a world model for a miniature robot using gen. prog.
- [238] **real-time** Evolving • behavioral modules for a robot with GP
- [369] - GAs for the development of • multi-heuristic search strategies
- [260] **Rechnergestützte** Entwurfsmethodik für Handhabungsgeräte mit genetischen Alg. en [Computer-aided design of manipulators with GAs]
- [41] **recognition** Ocean feature • using GAs with fuzzy fitness functions (GA/F3)
- [288] **recognizes** A multi-skilled robot that • and responds to different problem environments
- [175] **reconfigurable** Study of dynamically • robotic syst. (23th report, appl. of GA to opt. location problem on self-organizing manufacturing system)
- [281] - Trajectory planning of • redundant manipulator using virus-evol. GA
- [25] **reconstructing** A GA • surface profiles from linear images
- [379, 388] **recurrent** Analysing • dynamical networks evolved for robot cntr.
- [381] - Evolving • Dynamical Networks for Robot Cntr.
- [366] - Learning scheme for • neural network by GA
- [312] - Stabilization cntr. of biped locomotion robot based learning with GAs having self-adaptive mutation and • neural networks
- [293] **red** God save the • queen! Competition in co-evol. robotics
- [126] **redundancy** GA based • resolution of robot manipulators
- [304] **redundant** A gen. appr. to motion planning of • mobile manipulator syst. considering safety and configuration
- [307] - A gen. path planning alg. for • articulated robots
- [339] - An evol. standing on the design of • manipulators
- [235] - Appl. of GAs to point-to-point motion of • manipulators
- [118] - Global opt. technique for velocity cntr. of • robots
- [410] - Inverse kinematics of • robots using GAs
- [394] - Kinematic motion planning for • robots using GAs
- [92] - Motion planning for a • manipulator by GA
- [311] - Motion planning by GA for a • manipulator using a model of criteria of skilled operators
- [195] - Motion planning by GA for a • manipulator using an evaluation function based on criteria of skilled operators
- [200] - Motion planning for a • manipulator by GA using an evaluation function extracted from skilled operators
- [187] - Motion planning of a • manipulator - criteria of skilled operators by fuzzy-ID3 and GMDH and opt. by GA
- [411] - Obstacle avoidance of • manipulators using GAs
- [248] - Opt. path generation of a • manipulator with EP
- [247] - Skill based motion planning in hierarchical intelligent cntr. of a • manipulator
- [156] - Skill based motion planning of a • manipulator by GA
- [281] - Trajectory planning of reconfigurable • manipulator using virus-evol. GA
- [283] - Trajectory planning of • manipulator using virus-evol. GA
- [275] - Virus-evol. GA with subpop. : appl. to trajectory generation of • manipulator through energy opt.
- [49] **Refinement** Expert Rule Acquisition and • by GA - An Appr. to Multidimensional Problems
- [53] **registered** Gen. fusion of • images
- [287] **regression** Generating adaptive behavior for a real robot using function • within gen. prog.
- [20] **reinforcement** Gen. • learning appr. to the machine sch. problem
- [34] - Gen. • learning for sch. heterogeneous machines
- [367] **Report** Path Planning using GAs (2nd • selfish planning and coordinative planning for multiple robot syst. )
- [175] - Study of dynamically reconfigurable robotic syst. (23th • appl. of GA to opt. location problem on self-organizing manufacturing system)
- [36] **representation** Linear and non-linear assembly planning: fuzzy graph • and GA search
- [246] **requirements** A heuristic appr. to robot path planning based on task • using a GA
- [180] **resolution** Broadcast based fitness sharing GA for conflict • among autonomous robots
- [126] - GA based redundancy • of robot manipulators
- [288] **responds** A multi-skilled robot that recognizes and • to different problem environments
- [57] **review** GAs and robot cntr. , A •
- [253] - Intelligent cntr. for robotic and mechatronic syst. - a •

[337] **reward** Lamarckian sub-goal • in GA  
[103] **Robo sapiens** a personal assistant robot

[205] **RoboShepherd** Learning a complex behavior





# Bibliography

- [1] John H. Holland. Genetic algorithms. *Scientific American*, 267(1):44–50, 1992. `ga:Holland92a`.
- [2] Jarmo T. Alander. *An indexed bibliography of genetic algorithms: Years 1957-1993*. Art of CAD Ltd., Vaasa (Finland), 1994. (over 3000 GA references).
- [3] David E. Goldberg, Kelsey Milman, and Christina Tidd. Genetic algorithms: A bibliography. IlliGAL Report 92008, University of Illinois at Urbana-Champaign, 1992. `ga:Goldberg92f`.
- [4] N. Saravanan and David B. Fogel. A bibliography of evolutionary computation & applications. Technical Report FAU-ME-93-100, Florida Atlantic University, Department of Mechanical Engineering, 1993. (available via anonymous ftp site `magenta.me.fau.edu` directory `/pub/ep-list/bib` file `EC-ref.ps.Z`) `ga:Fogel93c`.
- [5] Thomas Bäck. Genetic algorithms, evolutionary programming, and evolutionary strategies bibliographic database entries. (personal communication) `ga:Back93bib`, 1993.
- [6] Thomas Bäck, Frank Hoffmeister, and Hans-Paul Schwefel. Applications of evolutionary algorithms. Technical Report SYS-2/92, University of Dortmund, Department of Computer Science, 1992. `ga:Schwefel92d`.
- [7] Leslie Lamport. *TEX: A Document Preparation System. User's Guide and Reference manual*. Addison-Wesley Publishing Company, Reading, MA, 2 edition, 1994.
- [8] Alfred V. Aho, Brian W. Kernighan, and Peter J. Weinberger. *The AWK Programming Language*. Addison-Wesley Publishing Company, Reading, MA, 1988.
- [9] Diane Barlow Close, Arnold D. Robbins, Paul H. Rubin, and Richard Stallman. *The GAWK Manual*. Cambridge, MA, 0.15 edition, April 1993.
- [10] Jarmo T. Alander, Timo Mantere, and Tero Pyylampi. Threshold matrix generation for digital halftoning by genetic algorithm optimization. In David P. Casasent, editor, *Intelligent Systems and Advanced Manufacturing: Intelligent Robots and Computer Vision XVII: Algorithms, Techniques, and Active Vision*, volume SPIE-3522, page ?, Boston, MA, 1.-6. November 1998. SPIE. (to appear available via anonymous ftp site `ftp.uwasa.fi` directory `cs/report98-1` file `Halftoning.ps.Z`) `A:Boston98`.
- [11] Gyoung H. Kim and C. S. George Lee. An evolutionary approach to the job-shop scheduling problem. In *Proceedings of the 1994 IEEE International Conference on Robotics and Automation*, volume 1, pages 501–506, San Diego, CA, 8.-13. May 1994. IEEE Computer Society Press, Los Alamitos, CA. `ga94aGHKim`.
- [12] M. Mohammadian and Russel James Stonier. Tuning and optimisation of membership functions of fuzzy logic controllers by genetic algorithms. In *Proceedings of the 3rd IEEE International Workshop on Robot and Human Communication*, pages 356–361, Nagoya, 18.-20. July 1994. IEEE, Piscataway, NJ. †(EI M038935/95) `ga94aMohammadian`.
- [13] B. Ravichandran and A. C. Sanderson. Model-based matching using a hybrid genetic algorithm. In *Proceedings of the 1994 IEEE International Conference on Robotics and Automation*, volume 3, pages 2064–2069, San Diego, CA, 8.-13. May 1994. IEEE Computer Society Press, Los Alamitos, CA. `ga94aRavichandran`.
- [14] Mukesh Taneja and N. Viswanadham. Inspection allocation in manufacturing systems: A genetic algorithm approach. In *Proceedings of the 1994 IEEE International Conference on Robotics and Automation*, volume 4, pages 3537–3542, San Diego, CA, 8.-13. May 1994. IEEE Computer Society Press, Los Alamitos, CA. `ga94aTaneja`.
- [15] K. Wala and H. Gadek-Madeja. Genetic algorithm for the multilevel generalized assignment problem. In *Proceedings of the First International Symposium on Mathematical Models in Automation and Robotics*, pages 137–141, Miedzyzdroje, Poland, 1.-3. September 1994. Wadywnictwo Uczelniane Politech. Szczecinskiej, Szczecin, Poland. †(CCA54314/97) `ga94aWala`.

- [16] Theron Randy Fennel, Al J. Underbrink, Jr., and George P. W. Williams, Jr. Scheduling with genetic algorithms. In ?, editor, *Proceedings of the Third International Conference on Artificial Intelligence, Robotics, and Automation for Space*, pages 435–438, ?, October 1994. JPL. †(N95-23762) **ga94bFennel**.
- [17] M. Hajek. Optimization of fuzzy rules by using a genetic algorithm. In ?, editor, *Proceedings of the Third International Conference on Automation, Robotics and Computer Vision*, volume 3, pages 2111–2115, Singapore, 9.-11. November 1994. Nanyang Technol. University, Singapore. †(CCA78813/96) **ga94bHajek**.
- [18] Jinwoo Kim and Bernard P. Zeigler. Ga-optimization for rapid prototype system demonstration. In ?, editor, *Proceedings of the Conference on Intelligent Robotics in Field, Factory, Service and Space (CIRFFSS 1994)*, volume 2, pages 571–578. NASA, Johnson Space Center, March 1994. †(N95-11524) **ga94bJKim**.
- [19] A. Szalas. Genetic algorithms for decision problems. In ?, editor, *Proceedings of the Sixth International Conference on Artificial Intelligence and Information-Control Systems of Robots'94*, pages 383–390, Smolenice Castle, Slovakia, 12.-16. September 1994. World Scientific, Singapore. †(EEA50248/96) **ga94bSzalas**.
- [20] Gyoung H. Kim and C. S. George Lee. Genetic reinforcement learning approach to the machine scheduling problem. In *Proceedings of the 1995 IEEE International Conference on Robotics and Automation*, volume 1, pages 196–201, Nagoya (Japan), 21.-27. May 1995. IEEE, New York. **ga95aGHKim**.
- [21] Hideo Fujimoto, Yuao Tanigawa, Kazuhiko Yasuda, and Kazuhiko Iwahashi. Applications of genetic algorithm and simulation to dispatching rule-based FMS scheduling. In *Proceedings of the 1995 IEEE International Conference on Robotics and Automation*, volume 1, pages 190–195, Nagoya (Japan), 21.-27. May 1995. IEEE, New York. **ga95bFujimoto**.
- [22] E. Nagaya and H. Ryu. Deflection control of a flexible beam by using shape memory alloy wires under the genetic algorithm control. In *Proceedings of the Seventh International Symposium on Microsystems, Intelligent Materials and Robots*, pages 334–337, Sendai (Japan), 27.-29. September 1995. Tokohu Univ., Sendai, Japan. †(CCA95896/96) **ga95bNagaya**.
- [23] A. O. Rodriguez and A. R. Suarez. Automatic graph drawing by genetic search. In ?, editor, *Proceedings of the 11th ISPE/IFAC International Conference on CAD/CAM, Robotics and Factories of the Future CARS and FOF95*, volume 2, pages 982–987, Pereira, Colombia, 28.-30. August 1995. Univ. Tecnologica de Pereira, Pereira (Colombia). †(CCA30725/96) **ga95bRodriguez**.
- [24] Pavel Ošmera. Hybrid and distributed genetic algorithms for motion control. In *Proceedings of the Fourth International Symposium on Measurement and Control in Robotics*, pages 297–300, Smolenice Castle, Slovakia, 12.-16. June 1995. Slovak Tech. Univ., Bratislava, Slovakia. †(CCA96772/96) **ga95f0smera**.
- [25] A. Sluzek and Ho Kuen Wei. A genetic algorithm reconstructing surface profiles from linear images. In ?, editor, *Proceedings of the Fourth IASTED International Conference Robotics and Manufacturing*, volume ?, pages 163–165, Honolulu, HI (USA), 19.-22. August 1996. IASTED-Acta Press, Anaheim, CA (USA). †(EEA87137/97) **ga96aASluzek**.
- [26] P. Chongistitvatana and J. Polvichai. Learning a visual task by genetic programming. In *Proceedings of the 1996 IEEE/RSJ International Conference on Intelligent Robots and Systems*, volume 2, pages 534–540, Osaka, Japan, 4.-8. November 1996. IEEE, New York, NY. †(CCA28742/97) **ga96aChongist**.
- [27] Alan D. Christiansen, A. D. Edwards, and Carlos A. Coello Coello. Automated design of part feeders using a genetic algorithm. In *Proceedings of the 1996 IEEE International Conference on Robotics and Automation*, volume 1, pages 846–851, Minneapolis, MN, 22.-28. April 1996. IEEE, New York. †(CCA 63194/96) **ga96aChristiansen**.
- [28] F. Saitoh. A method for extracting outline using the genetic algorithm based on factors for perceptive grouping. In *Proceedings of the 5th IEEE International Workshop on Robot and Human Communication RO-MAN'96*, pages 364–369, Tsukuba, Japan, 11.-14. November 1996. IEEE, New York, NY. †(CCA19106/97) **ga96aFSaitoh**.
- [29] A. Grocholewska-Czurylo and P. Siwak. Optimising the parameters for GA evolving of a 1-D cellular automaton. In ?, editor, *Proceedings of the Third International Symposium on Methods and Models in Automation and Robotics*, volume 3, pages 1075–1080, Miedzyzdroje, Poland, 10.-13. September 1996. Tech. Univ. Szczecin, Szczecin, Poland. †(CCA64542) **ga96aGrocholewska-Czurylo**.
- [30] M. Kazefooni, L. H. S. Luong, K. Abhary, F. T. S. Chan, and F. Pun. An integrated method for cell layout problem using genetic algorithms. In *Proceedings of the Twelfth International Conference on CAD/CAM Robotics and Factories of the Future*, pages 752–762, London, UK, 14.-16. August 1996. Middlesex Univ. Press, London. †(CCA35277/97) **ga96aKazefoon**.

- [31] K. Moriwaki, N. Inuzuka, M. Yamada, K. Itoh, H. Seki, and H. Itoh. Self adaptation of agent's behavior using GA with n-BDD. In *Proceedings of the 5th IEEE International Workshop on Robot and Human Communication RO-MAN'96*, pages 96–101, Tsukuba, Japan, 11.-14. November 1996. IEEE, New York, NY. †(CCA18721/97) **ga96aMoriwaki**.
- [32] Teo Lian Seng, M. Khalid, and R. Yusof. Adaptive fuzzy logic control by genetic algorithm. In *Proceedings of the Symposium on Robotics and Cybernetics*, pages 834–839, Lille (France), 9.-12. July 1996. Gerf EC Lille - Cite Scientifique, Lille (France). †(CCA46310/97) **ga96aTLSeng**.
- [33] T. Drabe, W. Bressgott, and E. Bartscht. Genetic task clustering for modular neural networks. In *Proceedings of the International Workshop on Neural Networks for Identification, Control, Robotics, and Signal/Image Processing*, pages 339–347, Venice (Italy), 21.-23. August 1996. IEEE Computer Society Press, Los Alamitos, CA. †(CCA87103/96) **ga96bDrabe**.
- [34] G. H. Kim and C. S. G. Lee. Genetic reinforcement learning for scheduling heterogeneous machines. In *Proceedings of the 1996 IEEE International Conference on Robotics and Automation*, volume 3, pages 2798–2803, Minneapolis, MN, 22.-28. April 1996. IEEE, New York, NY. †(CCA70311/96) **ga96bGHKim**.
- [35] J. L. Paris and Henri Pierreval. Manufacturing cell formation using distributed evolutionary algorithms. In *Proceedings of the Twelfth International Conference on CAD/CAM Robotics and Factories of the Future*, pages 369–374, London (UK), 14.-16. August 1996. Middlesex Univ. Press, London, UK. †(CCA43719/97) **ga96bParis**.
- [36] Milad Sebaaly, Hideo Fujimoto, and Fuad Mrad. Linear and non-linear assembly planning: fuzzy graph representation and GA search. In *Proceedings of the 1996 13th IEEE International Conference on Robotics and Automation*, volume 2, pages 1533–1538, Minneapolis, MN, 22.-28. April 1996. IEEE, Piscataway, NJ. †(EI M120238/96) **ga96bSebaaly**.
- [37] A. M. Erkmen, M. Erbudak, O. Anlagan, and O. Unver. Genetically tuned fuzzy scheduling for flexible manufacturing systems. In *Proceedings of the 1997 IEEE International Conference on Robotics and Automation*, volume 2, pages 951–956, Albuquerque, NM, 20.-25. April 1997. IEEE, New York, NY. †(CCA80112/97) **ga97aAMerkmen**.
- [38] W. Pölzleitner and O. Sidla. Optimizing context-based stereo using genetic feature selection. In Kevin S. Harding and Donald J. Svetkoff, editors, *Intelligent Robots and Computer Vision XVI: Algorithms, Techniques, Active Vision, and Materials Handling*, volume SPIE-3208, pages ?–?, Pittsburgh, PA, 15. -17. October 1997. The International Society for Optical Engineering, Bellingham, WA. †(prog.) **ga97aPolzleitner**.
- [39] Yung-Feng Chiu and Li-Chen Fu. A GA embedded dynamic search algorithm over a Petri net model for an FMS scheduling. In *Proceedings of the 1997 IEEE International Conference on Robotics and Automation*, volume 1, pages 513–518, Albuquerque, NM, 20.-25. April 1997. IEEE, New York, NY. †(CCA80081/97) **ga97aYung-FengChiu**.
- [40] Luis Rabelo, Yuehwen Yih, Albert Jones, and Jay-Shinn Tsai. Intelligent scheduling for flexible manufacturing systems. In *Proceedings of the 1993 IEEE International Conference on Robotics and Automation*, volume 3, pages 810–815, Atlanta, GA, 2.-6. May 1993. IEEE Computer Society Press, Los Alamitos, CA. †(EI 128322/93) **ga:AJones93a**.
- [41] Carol Ann Ankenbrandt, Bill P. Buckles, Frederick E. Petry, and M. Lybanon. Ocean feature recognition using genetic algorithms with fuzzy fitness functions (GA/F3). In E. Griffin, editor, *3rd Annual Workshop on Space Operations Automation and Robotics (SOAR 89)*, pages 679–686, Lyndon B. Johnson Space Center, Houston, TX, 25.-27. July 1989 1990. NASA, Washington. †(P43672) **ga:Ankenbrandt90**.
- [42] Marco Dorigo. ALECSYS and the AUTONOUSE: Learning to control a real robot by distributed classifier systems. Technical Report 92-011, Politecnico di Milano, Dipartimento di Elettronica, 1992. **ga:Dorigo92f**.
- [43] Emanuel Falkenauer and A. Delchambre. A genetic algorithm for bin packing and line balancing. In *Proceedings of the 1992 IEEE International Conference on Robotics and Automation*, volume 2, pages 1186–1192, Nice, France, 12. - 14. May 1992. IEEE Robotics and Automation Society, IEEE Computer Society Press, Los Alamitos, California. **ga:Falkenauer92a**.
- [44] Emanuel Falkenauer and P. Gaspard. Creating part families with a grouping genetic algorithm. In M. Vidyasagar, editor, *Proceedings of ISIR '93 International Symposium on Intelligent Robotics*, pages 375–384, Bangalore (India), 7.-9. January 1993. Tata McGraw-hill Publishing Co Ltd, New Delhi. †(GAdigest.v8n13) **ga:Falkenauer93a**.
- [45] Gary P. Ford and Jun Zhang. Structural graph-matching approach to image understanding. In David P. Casasent, editor, *Intelligent Robots and Computer Vision X: Algorithms and Techniques*, volume SPIE-1607, pages 559–569, Boston, MA, 11. - 13. November 1991. SPIE – The International Society for Optical Engineering. †(EI A074057/92) **ga:Ford91a**.

- [46] Takanori Shibata and Toshio Fukuda. Coordinative behavior by genetic algorithm and fuzzy in evolutionary multi-agent system. In *Proceedings of the 1993 IEEE International Conference on Robotics and Automation*, volume 1, pages 760–765, Atlanta, GA, 2.-6. May 1993. IEEE Computer Society Press, Los Alamitos, CA. [ga:Fukuda93d](#).
- [47] Allen Himler and Harry Wechsler. Suboptimal MAP estimates using A\* and genetic algorithms. In David P. Casasent, editor, *Intelligent Robots and Computer Vision X: Algorithms and Techniques*, volume SPIE-1607, pages 27–37, Boston, MA, 11. - 13. November 1991. SPIE – The International Society for Optical Engineering. [ga:Himler91](#).
- [48] Takashi Kawakami, Masaaki Minagawa, and Yukinori Kakazu. Auto tuning of 3-D packing rules using genetic algorithms. In *Proceedings IROS '91 IEEE/RSJ International Workshop on Intelligent Robots and Systems '91*, volume 3, pages 1319–1324, Osaka, 3.-5. November 1991. IEEE Cat. No. 91TH0375-6. [ga:Kawakami91](#).
- [49] Masaaki Minagawa, Takao Yoneda, and Yukinori Kakazu. Expert rule acquisition and refinement by GA - An approach to multidimensional problems. In *Proceedings IROS '91 IEEE/RSJ International Workshop on Intelligent Robots and Systems '91*, volume 3, pages 1325–1330, Osaka (Japan), 3.-5. November 1991. IEEE Cat. No. 91TH0375-6. [ga:Minagawa91](#).
- [50] Hiroyuki Mori and K. Takeda. Power system decomposition using a simulated evolution technique. In *Proceedings of the Second International Conference on Automation, Robotics and Computer Vision (ICARCV'92)*, volume 3, pages INV 11.2/1–5, Singapore, 16.-18. September 1992. Nanyang Technol. University, Singapore. †(CCA 18640/93 EEA 24734/94) [ga:Mori92a](#).
- [51] Hiroyuki Mori and T. Horiguchi. A method for economic load dispatching using a genetic algorithm. In *Proceedings of the Second International Conference on Automation, Robotics and Computer Vision (ICARCV'92)*, volume 3, pages INV 11.4/1–5, Singapore, 16.-18. September 1992. Nanyang Technol. University, Singapore. †(EEA 24736/94) [ga:Mori92b](#).
- [52] Ian C. Parmee and G. N. Bullock. Evolutionary techniques and their application to engineering design. In ?, editor, *Proceedings of the Fourth EUROPIA International Conference on the Application of Artificial Intelligence, Robotics and Image Processing to Architecture, Building Engineering, Civil Engineering, and Urban Design and Urban Planning*, pages 33–42, Delft (Netherlands), 21.-24. June 1993. Elsevier, Amsterdam. †(CCA 30149/94) [ga:Parmee93c](#).
- [53] Renaud de Peuffelhoux. Genetic fusion of registered images. In David P. Casasent, editor, *Intelligent Robots and Computer Vision X: Algorithms and Techniques*, volume SPIE-1607, pages 380–384, Boston, MA, 11. - 13. November 1991. SPIE – The International Society for Optical Engineering. [ga:Peuffelhoux91](#).
- [54] James Zhen Tu and Ernest L. Hall. Learning the optimal discriminant function through genetic learning algorithm. In David P. Casasent, editor, *Intelligent Robots and Computer Vision X: Algorithms and Techniques*, volume SPIE-1607, pages 614–625, Boston, MA, 11.-13. November 1991. SPIE – The International Society for Optical Engineering. [ga:Tu91](#).
- [55] Jarmo T. Alander. Indexed bibliography of genetic algorithms in robotics. Report 94-1-ROBOT, University of Vaasa, Department of Information Technology and Production Economics, 1995. (available via anonymous ftp site [ftp.uwasa.fi](#) directory [cs/report94-1](#) file [gaR0B0Tbib.ps.Z](#)) [gaR0B0Tbib](#).
- [56] Hannu Lehtinen. Liikeratojen optimointi [Robot path planning by Davidor]. In Jarmo T. Alander, editor, *Geneettiset algoritmit – Genetic Algorithms*, number TKO-C53, pages 73–82. Helsinki University of Technology (HUT), Department of Computer Science, 1992. (in Finnish) [GA:Lehtinen92](#).
- [57] Jarmo T. Alander. Genetic algorithms and robot control, a review. In *Robotikdaggar 93*, pages C4–, Linköping, Sweden, 2.-3. June 1993. Tekniska Högskolan i Linköping. [GA:Robotik93](#).
- [58] Jarmo T. Alander. On robot navigation using a genetic algorithm. In Albrecht et al. [444], pages 471–478. also as [59] [GA:autoga93](#).
- [59] Jarmo T. Alander. On robot navigation using a GA. In *Proceedings of the First Finnish Workshop on Genetic Algorithms and their Applications* [445]. (also [58]) [GA:autogaR93](#).
- [60] Jarmo T. Alander. Genetic algorithms and robot control. In *Proceedings of the First Finnish Workshop on Genetic Algorithms and their Applications* [445]. (also [57]) [GA:robotics93](#).
- [61] Alan C. Schultz. Learning robot behaviors using genetic algorithms. In ?, editor, *Proceedings of the International Symposium on Robotics and Manufacturing*, volume ?, page ?, ?, 14.-18. August 1994. ? [ga94aACSchultz](#).

- [62] A. H. Abu-Alola, N. E. Gough, Q. Mehdi, and P. B. Musgrove. Application of a genetic algorithm to an actuation mechanism for robotic vision. In ?, editor, *Proceedings of the International Conference on CONTROL'94*, volume 2 of *IEE Conference Publications*, pages 1128–1133, Coventry (UK), 21.-24. March 1994. †(EI M104573/94) [ga94aAbu-Alola](#).
- [63] Juan-Manuel Ahuactzin. *The Ariadne's clew algorithm: A general planning technique, Application to automatic path planning*. PhD thesis, Institut Imag, Grenoble (France), 1994. †(Ahuactzin) [ga94aAhuactzin](#).
- [64] Peter Rolann Arentoft and Kaj Aage Jensen. Simuleret skovbrandsbekæmpelse – et eksempel på genetisk baseret maskinindlæring [Simulated forest fire fights – an example of genetic based machine learning]. Report DAIMI IR-120, Aarhus University, Computer Science Department, 1994. (in Danish) [ga94aArentoft](#).
- [65] Norio Baba and Naoyuki Kubota. Collision avoidance planning of a robot manipulator by using genetic algorithm - a consideration for the problem in which moving obstacles and/or several robots are included in the workspace. In ICEC'94 [446], pages 714–719. [ga94aBaba](#).
- [66] C. H. Leung and A. M. S. Zalzala. A genetic solution for the motion of wheeled robotic systems in dynamic environments. In *International Conference on Control'94*, volume 1, pages 760–764, Coventry (UK), 21.-24. March 1994. IEE, London. †(EI M126299/95 CCA 53622/94) [ga94aCHLeung](#).
- [67] Craig W. Reynolds. Advances in genetic programming. In Kinnear, Jr. [447], chapter 10. Evolution of obstacle avoidance behavior: Using noise to promote robust solutions, pages 221–241. †(cessu) [ga94aCWR Reynolds](#).
- [68] A. P. Fraser and J. R. Rush. Putting INK into a BIRo: A discussion of problem domain knowledge for evolutionary robotics. In ?, editor, *Proceedings of the Workshop on Artificial Intelligence and Simulation of Behaviour Workshop on Evolutionary Computing*, volume 1, page ?, ?, April 1994. ? †(Langdon/bib erroneous reference?) [ga94aFraser](#).
- [69] Toshio Fukuda, G. Iritani, Tsuyoshi Ueyama, and Fumihito Arai. Self-organizing robotic systems. organization and evolution of group behavior in cellular robotic system. In P. Gaussier and J. Nicoud, editors, *Proceedings of the PerAc'94. From Perception to Action*, pages 24–35, Lausanne (Switzerland), 7.-9. September 1994. IEEE Computer Society Press, New York. †([144]) [ga94aFukuda](#).
- [70] L. Gacogne. About the fitness of simulations whose fuzzy rules are learned by genetic algorithms. In EUFIT'94 [448], pages 1523–1531. [ga94aGacogne](#).
- [71] R. Ghanea-Hercock and A. P. Fraser. Evolution of autonomous robot control architectures. In ?, editor, *Proceedings of the Workshop on Artificial Intelligence and Simulation of Behaviour Workshop on Evolutionary Computing*, volume 1, page ?, ?, April 1994. ? †(Langdon/bib) [ga94aGhaneaHercock](#).
- [72] T. Gomi. Evolutionary robotics and applied artificial life. In ?, editor, *Proceedings of the Fachgespräch Autonome Mobile Systeme (AMS'94)*, page ?, Stuttgart (Germany), 13.-14. October 1994. ? †(prog) [ga94aGomi](#).
- [73] Hoi-Shan Lin, Jing Xiao, and Zbigniew Michalewicz. Evolutionary navigator for a mobile robot. In *Proceedings of the 1994 IEEE International Conference on Robotics and Automation*, volume 3, pages 2199–2204, San Diego, CA, 8.-13. May 1994. IEEE Computer Society Press, Los Alamitos, CA. [ga94aHSLin](#).
- [74] C. Hein and A. Meystel. A genetic technique for robotic trajectory planning. *Telematics and Informatics*, 11(4):351–364, Fall 1994. (1994 Goddard Conference on Space Applications of Artificial Intelligence, Greenbelt, MD, May) †(CCA 14408/95) [ga94aHein](#).
- [75] Inman Harvey, Philip Husbands, and David T. Cliff. Seeing the light: Artificial evolution, real vision. Technical Report Report CSRP317, University of Sussex, School of Cognitive and Computing Science, 1994. (available via anonymous ftp site <ftp.cogs.susx.ac.uk> directory /pub/reports/csrp file [csrp317.ps.Z](#)) [ga94aIHarvey](#).
- [76] Akio Ishiguro, S. Ichikawa, and Yoshiki Uchikawa. A gait acquisition of 6-legged walking robot using immune networks. In ?, editor, *Proceedings of the IROS'94*, volume 2, pages 1034–1041, ?, ? 1994. ? †([222]) [ga94aIshiguro](#).
- [77] Y. Kawachi, M. Inaba, and Toshio Fukuda. Evolutional self-organization of distributed autonomous systems. In ?, editor, *Proceedings of the Distributed Autonomous Robotic Systems*, pages 243–254, Saitama, Japan, 14.-15. July 1994. Springer- Verlag, Tokyo (Japan). †(CCA94714/96) [ga94aKawachi](#).
- [78] D. P. Kwok and Fang Sheng. Genetic algorithm and simulated annealing for optimal robot arm PID control. In ICEC'94 [446], pages 707–713. [ga94aKwok](#).
- [79] M. A. Lee and M. H. Smith. Automatic design and tuning of a fuzzy system for controlling the Acrobot using genetic algorithms, DSFS, and meta-rule techniques. In *Proceedings of the First International Joint Conference of the North American Fuzzy Information Processing Society Biannual Conference*, pages 416–420, San Antonio, TX, 18.-21. December 1994. IEEE, New York. †(CCA 14377/95) [ga94aLee](#).

- [80] Donald Dewar Leitch and Penelope Probert. Genetic algorithms for the development of fuzzy controllers for autonomous guided vehicles. In EUFIT'94 [448], pages 464–469. (available via anonymous ftp site [ftp.robots.ox.ac.uk](ftp://robots.ox.ac.uk/directory/pub/outgoing/don) directory /pub/outgoing/don file [eufit94.ps.Z](#)) [ga94aLeitch](#).
- [81] Christopher G. Lott. Terrain flattening by autonomous robot: A genetic programming application. In Koza [449], page ? †(conf.prog) [ga94aLott](#).
- [82] Luis Magdalena. *Estudio de la coordinación inteligente en robots bípedos: aplicación de lógica borrosa y algoritmos genéticos*. PhD thesis, Universidad Politécnica de Madrid, 1994. †([450]) [ga94aMagdalena](#).
- [83] Orazio Miglino, K. Nafasi, and C. Taylor. Selection for wandering behavior in a small robot. *Artificial Life*, 2(?):101–116, ? 1994. †([147]) [ga94aMiglino](#).
- [84] N. Noguchi and H. Terao. Creation of optimal route for agricultural vehicle and construction machinery by using a genetic algorithm. *Transactions of the Society of Instrument and Control Engineers (Japan)*, 30(1):64–71, January 1994. (in Japanese) †(CCA 40369/94) [ga94aNoguchi](#).
- [85] Miles B. Pellazar. Vehicle route planning with constraints using genetic algorithms. In *Proceedings of the IEEE 1994 National Aerospace and Electronics Conference (NAECON 94)*, volume 1, pages 111–118, Dayton, OH, 23.-27. May 1994. IEEE, New York. \* [ga94aPellazar](#).
- [86] Ashwin Ram, R. C. Arkin, G. Boone, and M. Pearce. Using genetic algorithms to learn reactive control behaviours for autonomous robotic navigation. *Adaptive Behavior*, 2(3):277–305, Winter 1994. †(CA 5276/94) [ga94aRam](#).
- [87] Gerald Paul Roston. *A genetic methodology for configuration design*. PhD thesis, Carnegie Mellon University, Department of Mechanical Engineering, 1994. †(News/Roston DAI Vol 56 No 3) [ga94aRoston](#).
- [88] J. R. Rush, A. P. Fraser, and D. P. Barnes. Evolving co-operation in autonomous robotic systems. In ?, editor, *Proceedings of the IEE International Conference on Control*, page ?, London (UK), 21.-24. March 1994. IEE, London. †(Langdon/bib) [ga94aRush](#).
- [89] Shigeyuki Sakane, Toshiji Kuruma, Toru Omata, and Tomomasa Sato. Planning focus of attention for multifingered hand with consideration of time-varying aspects. In *Proceedings of the 2nd IEEE CAD Based Vision Workshop*, pages 151–160, Champion, PA, 8.-11. February 1994. IEEE Computer Society Press, Los Alamitos, CA. †(EI M024337/95) [ga94aSakane](#).
- [90] Takanori Shibata and Toshio Fukuda. Coordination in evolutionary multi-agent-robotic system using fuzzy and genetic algorithm. *Control Engineering Practice*, 2(1):103–111, January 1994. (Proceedings of 1993 IEEE Workshop on Neuro-Fuzzy Control: Instrumentation and Control Applications, Muroran (Japan)) †(CCA 19188/94 P60326/94 EI M054296/94) [ga94aShibata](#).
- [91] J. Solano and D. I. Jones. Parameter determination for a genetic algorithm applied to robot control. In *International Conference on Control'94*, volume 1 of *IEE Conference Publication No. 389*, pages 765–770, Coventry (UK), 21.-24. March 1994. IEE, London. †(CCA 53623/94) [ga94aSolano](#).
- [92] Tamotsu Abe, Takanori Shibata, Kazuo Tanie, and Matsuo Nose. Motion planning for a redundant manipulator by genetic algorithm. In *Proceedings of the IEEE Symposium on Emerging Technologies and Factory Automation*, pages 466–471, Tokyo (Japan), 6.-10. November 1994. IEEE New York. †(CCA 46298/95) [ga94aTAbe](#).
- [93] Stewart N. Taylor. Evolution by genetic programming of a spatial robot juggling control algorithm. In Koza [449], page ? †(conf.prog) [ga94aTaylor](#).
- [94] T. Watanabe *et al.* Parameter tuning for robot manipulators using a genetic algorithm. In *Proceedings of the IECON*, volume ?, page ?, Bologna (Italy), September 1994. IEEE, New York. †([142]) [ga94aWatanabe](#).
- [95] H. Y. Xu and G. Vukovich. Fuzzy evolutionary algorithms and automatic robot trajectory generation. In ICEC'94 [446], pages 595–600. [ga94aXu](#).
- [96] Yong Ho Kim, Kwee Bo Sim, Hyun Chan Cho, and Hong Tae Jeon. Planning a minimum time path for multi-task robot manipulator using micro-genetic algorithm. *Journal of Korean Institute of Telematics and Electronics*, 31B(4):40–47, April 1994. †(CCA 60674/94) [ga94aYHKim](#).
- [97] Motoji Yamamoto, Yukihiro Isshiki, and Akira Mohri. Collision free minimum trajectory planning for manipulators using global search and gradient method. In *Proceedings of the IEEE/R SJ/GI International Conference on Intelligent Robots and Systems (IROS'94)*, volume 3, pages 2184–2191, Munich (Germany), 12.-16. September 1994. IEEE, New York. [ga94aYamamoto](#).
- [98] A. M. S. Zalzal and K. K. Chan. An evolutionary solution for the control of mechanical arms. In ?, editor, *Proceedings of the 3rd International Conference on Automation, Robotics and Computer Vision (ICARV'94)*, page ?, Singapore, 8.-11. November 1994. ? †([431]) [ga94aZalzal](#).

- [99] Min Zhao. Mobile manipulator path planning by a genetic algorithm. *J. Robot. Syst. (USA)*, 11(3):143–153, ? 1994. †(CCA 40556/94 EI M140924/94) **ga94aZhao**.
- [100] R. J. Abbott, M. L. Campbell, and W. C. Krenz. Scheduling robotic actions by genetic algorithms. In ?, editor, *Proceedings of the 1st International Conference on Vision and Movement in Man and Machines in Honor of Professor Lawrence Stark (STARKFEST 94)*, page ?, Berkeley, CA, 24.-26. June 1994. University of Berkeley, Berkeley, CA. †(P68650) **ga94bAbbott**.
- [101] N. Baba and H. Handa. Genetic algorithm applied to maze passing problem of mobile robot - a comparison with the learning performance of the hierarchical structure stochastic automata. In *Proceedings of ICCI94/Neural Networks*, pages –, Orlando, FL, 26. June - 2. July 1994. IEEE, New York, NY. **ga94bBaba**.
- [102] Christian Blume, S. Krisch, and Wilfried Jakob. Robot trajectory planning and collision avoidance using genetic algorithms. In ?, editor, *Proceedings of the 25th International Symposium on Industrial Robots*, volume ?, page ?, Hannover (Germany), ? 1994. ? †([443]) **ga94bBlume**.
- [103] A. Bradshaw, D. W. Seward, and R. N. Nagy. Robo sapiens: a personal assistant robot. In ?, editor, *Proceedings of the Basis for New Industrial Development*, pages 159–164, Budapest (Hungary), 21.-23. September 1994. Comput. Mech. Publications, Southampton (UK). †(CCA45954/96) **ga94bBradshaw**.
- [104] I. Duleba and I. Karcz-Duleba. Trajectory planning of robots: a ga approach. In *Proceedings of the Twelfth European Meeting on Cybernetics and Systems Research*, volume 2, pages 1467–1474, Vienna, VA, 5.-8. April 1994. World Scientific Publishing Co. Pte. Ltd, Singapore. †(CCA90476/95) **ga94bDuleba**.
- [105] V. Gorrini and Marco Dorigo. An application of evolutionary algorithms to the scheduling of robotic operations. Technical Report IRIDIA/94-24, Université Libre de Bruxelles, 1994. †(Bersini) **ga94bGorrini**.
- [106] Frédéric C. Gruau. *Neural network synthesis using cellular encoding and the genetic algorithm*. PhD thesis, Ecole Normale Supérieure de Lyon, Laboratoire de l'Informatique du Parallélisme, 1994. †(Langdon/bib) **ga94bGruau**.
- [107] Inman Harvey, Philip Husbands, and David T. Cliff. Seeing the light: Artificial evolution, real vision. In David Cliff, Philip Husbands, and Jean-Arcady Meyer, editors, *From Animals to Animats 3. Proceedings of the Third International Conference on Simulation of Adaptive Behavior*, page ?, ?, ? 1994. MIT Press, Cambridge, MA. **ga94bHarvey**.
- [108] Hoi-Shan Lin, Jing Xiao, and Zbigniew Michalewicz. Evolutionary algorithm for path planning in mobile robot environment. In ICEC'94 [446], pages 211–216. **ga94bLin**.
- [109] Kaoru Nakano, Shingo Uchihashi, Naoki Umemoto, and Hayato Nakagama. An approach to evolutionary system. In ICEC'94 [446], pages 781–786. **ga94bNakano**.
- [110] S. Nolfi, Dario Floreano, G. Miglino, and Francesco Mondada. How to evolve autonomous robots: different approaches in evolutionary robotics. In ?, editor, *Proceedings of the Fourth International Workshop on the Synthesis and Simulation of Living Systems*, pages 190–197, Cambridge, MA, USA, 6.-8. July 1994. MIT Press 1994, Cambridge, MA, USA. †(CCA46009/96) **ga94bNolfi**.
- [111] Mukesh J. Patel and Marco Dorigo. Adaptive learning of a robot arm. In Terrence C. Fogarty, editor, *Evolutionary Computing, AISB Workshop Selected Papers*, volume 865 of *Lecture Notes in Computer Science*, pages 180–194, ?, ? 1994. Springer-Verlag, Berlin. †(Fogarty) **ga94bPatel**.
- [112] C. W. Reynolds. Evolution of corridor following behavior in a noisy world. In ?, editor, *Proceedings of the Third International Conference on Simulation of Adaptive Behavior*, pages 402–410, Brighton, UK, 8.-12. August 1994. MIT Press 1994, Cambridge, MA, USA. †(CCA37120/96) **ga94bReynolds**.
- [113] Takanori Shibata and Toshio Fukuda. Robotic motion planning by genetic algorithm with fuzzy critic. *Transactions of the Society of Instrument and Control Engineers (Japan)*, 30(3):337–344, January 1994. (in Japanese) †(CCA 53711/94) **ga94bShibata**.
- [114] J. V. Stone. Evolutionary robots. our hands in their brains? In ?, editor, *Proceedings of the Fourth International Workshop on the Synthesis and Simulation of Living Systems*, pages 400–405, Cambridge, MA, USA, 6.-8. July 1994. MIT Press, Cambridge, MA. †(CCA43697/96) **ga94bStone**.
- [115] Tamotsu Abe, Takanori Shibata, Kazuo Tanie, and Matsuo Nose. Motion planning for 3D cutting by a manipulator with 6 degrees of freedom - optimization by genetic algorithm. In ?, editor, *Proceedings of the 3rd International Conference on Fuzzy Logic, Neural Nets and Soft Computing*, pages 453–454, ?, ? 1994. ? †([156]) **ga94bTAbe**.
- [116] Wei-Min Yun and Yu-Geng Xi. Optimum motion planning in joint space using genetic algorithms. In ?, editor, *Proceedings of the 2nd Asian Conference on Robotics and Its Applications*, pages 576–581, Beijing, China, 13.-15. October 1994. International Academic Publishers, Beijing (China). †(CCA36925/96) **ga94bW-MYun**.

- [117] T. Watanabe, S. Muraoka, K. Kondo, H. Tokumaru, K. Yamazaki, and K. Kawata. Parameter tuning for robot manipulators using genetic algorithm. In ?, editor, *Proceedings 1994 Japan-USA Symposium on Flexible Automation - A Pacific Rim Conference*, volume 3, pages 1327–1332, Kobe, Japan, 11.-18. July 1994. Inst. Syst. Control & Inf. Eng. , Kyota (Japan). †(CCA11852/96) **ga94bWatanabe**.
- [118] A. Zagorianos, S. Tzafestas, and P. Dimou. Global optimization technique for velocity control of redundant robots. In ?, editor, *Proceedings of the Basis for New Industrial Development*, pages 219–223, Budapest (Hungary), 21.-23. September 1994. Comput. Mech. Publications, Southampton (UK). †(CCA45955/96) **ga94bZagoriano**.
- [119] Marco Dorigo and Marco Colombetti. Robot shaping: Developing autonomous agents through learning. *Artificial Intelligence*, 71(2):321–370, December 1994. **ga94cDorigo**.
- [120] Takeshi Furuhashi, N. Nakaoka, and Y. Uchikawa. A new approach to genetic based machine learning and an efficient finding of fuzzy rules. In *Proceedings of the Advances in Fuzzy Logic, Neural Networks and Genetic Algorithms*, pages 114–122, Nagoya (Japan), 9.-10. August 1994 1994. Springer-Verlag, Berlin (Germany). **ga94cFuruhashi**.
- [121] Simon G. Handley. Advances in genetic programming. In Kinneer, Jr. [447], chapter 18. The automatic generation of plans for a mobile robot via genetic programming with automatically defined functions, pages 391–407. †(cessu) **ga94cHandley**.
- [122] Brian Porter, Bamidele A. Sangolola, and N. N. Zadeh. Genetic design of computer-torque controllers for robotic manipulators. In *Proceedings of the IASTED International Conference, Systems and Control '94*, pages 169–172, Lugano, Switzerland, 20.-22. June 1994. IASTED, Anaheim, CA (USA). †(CCA 88915/96) **ga94dPorter**.
- [123] John R. Koza. Evolution of subsumption architecture that perform a wall following task for an autonomous mobile robot via genetic programming. In Thomas Pesche, editor, *Computational Learning Theory and Natural Learning Systems*, volume 2, pages 321–346. The MIT Press, Cambridge, MA, 1994. †(Langdon/bib) **ga94lKoza**.
- [124] Francesco Mondada and Dario Floreano. Evolution of neural control structures: some experiments on mobile robots. *Robotics and Autonomous Systems*, 16(2-4):183–195, December 1995. **ga95Mondada**.
- [125] I. Ashiru and C. Czarnecki. Optimal motion planning for mobile robots using genetic algorithms. In *Proceedings of the 1995 IEEE/IAS International Conference on Industrial Automation and Control*, pages 297–300, Hyderabad, India, 5.-7. January 1995. IEEE, New York. †(CCA 71236/95) **ga95aAshiru**.
- [126] K. K. Aydin and E. Kocaoglan. Genetic algorithm based redundancy resolution of robot manipulators. In *Proceedings of ISUMA - NAFIPS '95 The Third International Symposium on Uncertainly Modeling and Analysis and Annual Conference of the North American Fuzzy Information Processing Society*, pages 322–327, College Park, MD, USA, 17.-20. September 1995. IEEE, Los Alamitos, CA. †(CCA90652/95) **ga95aAydin**.
- [127] R. Braunstingl and A. Ollero. Evaluating the wall following behaviour of a mobile robot with fuzzy logic. In ?, editor, *Proceedings of the Artificial Intelligence in Real-Time Control*, volume ?, pages 79–88, Bled, Slovenia, 29. nov - 1. dec. ? 1995. A proprint volume from the IFAC/IMACS Workshop. †(CCA64069/97) **ga95aBraunstingl**.
- [128] V. Brevart. Kiki automate pensant. In ? [451], page ? †(conf.prog) **ga95aBrevart**.
- [129] Lawrence Bull and Terence C. Fogarty. Evolution in multi-agent systems: Evolving communicating classifier systems for gait in a quadrapedal robot. In Larry J. Eshelman, editor, *Proceedings of the Sixth International Conference on Genetic Algorithms*, page ?, Pittsburgh, PA, 15.-19. July 1995. ? †(prog) **ga95aBull**.
- [130] Mingwu Chen and A. M. S. Zalzal. Safety considerations in the optimisation of paths for mobile robots using genetic algorithms. In IEE/IEEE Sheffield '95 [452], pages 299–306. †(conf.prog) **ga95aChen**.
- [131] Daehee Kang, Hideki Hashimoto, and Fumio Harashima. Path generation for mobile robot navigation using genetic algorithm. In *Proceedings of the 21st International Conference on Industrial Electronics, Control, and Instrumentation*, volume 1, pages 167–172, Orlando, FL, 6.-10. November 1995. IEEE, New York, NY. †(CCA28765/96) **ga95aDKang**.
- [132] D. T. Pham and S. Sagiroglu. Three methods of training multi-layer perceptrons to model a robot sensor. *Robotica*, 13(5):531–538, September-October 1995. **ga95aDTPham**.
- [133] Andrej Dobnikar. Genetic synthesis of task oriented neural networks. In Pearson et al. [453], pages 329–332. **ga95aDobnikar**.



- [134] Dario Floreano and Francesco Mondada. From evolution of innate behaviors to evolution of learning in robotic agents. Technical Report R95.061, Swiss Federal Institute of Technology at Lausanne, 1995. †([?]) [ga95aFloreano](#).
- [135] G. Mester, S. Pletl, G. Pajor, and I. Rudas. Adaptive control of robot manipulators with fuzzy supervisor using genetic algorithms. In ?, editor, *Proceedings of international Conference on Recent Advances in Mechatronics*, volume 2, pages 661–666, Istanbul (Turkey), 14.-16. August 1995. Bogazici University Bebek, Istanbul. †(CCA72953/97) [ga95aGMester](#).
- [136] Mark A. C. Gill and Albert Y. Zomaya. Genetic algorithms for robot control. In ICEC'95 [454], pages 462–466. †(prog.) [ga95aGill](#).
- [137] Aarne Halme and Mika Vainio. Muurahaisten jalanjäljillä – kävelevät koneet, robottiyhteisöt ja niiden ohjaus [On foot steps of ants – walking machines, robot societies and their control]. In Eero Hyvönen and Jouko Seppänen, editors, *Keinoelämä – Artificial Life*, pages 170–180, Helsinki (Finland), 12. May 1995. Finnish Artificial Intelligence Society (FAIS), Espoo. (in Finnish) [ga95aHalme](#).
- [138] John Hart. The application of genetic programming to cooperative movement planning and execution. In Koza [455], page ? †(Koza) [ga95aHart](#).
- [139] Philip Husbands, Inman Harvey, and David T. Cliff. Circle in the round: State space attractors for evolved sighted robots. *Robotics and Autonomous Systems*, 15(1-2):83–106, July 1995. [ga95aHusbands](#).
- [140] I. Ashiru, C. Czarmecchi, and Tom Routen. Intelligent operators and optimal genetic based path planning for mobile robots. In *Proceedings of the International Conference on Recent Advances in Mechatronics*, volume 2, pages 1018–1023, Istanbul (Turkey), 14.-16. August 1995. Bogazici University Bebek, Istanbul. †(CCA72835/97) [ga95aIAshiru](#).
- [141] Akio Ishiguro, Toshiyuki Kondo, Yuji Watanabe, and Yoshiki Uchikawa. Dynamic behavior arbitration of autonomous mobile robots using immune networks. In ICEC'95 [454], pages 722–727. †(prog.) [ga95aIshiguro](#).
- [142] Arpad Kelemen, Maria Imecs, Calin Rusu, and Zoltan Kis. Run-time autotuning of a robot controller using a genetics based machine learning control scheme. In IEE/IEEE Sheffield '95 [452], pages 307–312. [ga95aKelemen](#).
- [143] Jong-Kwan Kim and Hyun-Sik Shim. Robust autonomous location control using evolutionary programming for autonomous mobile robots. In J. R. McDonnell, R. G. Reynolds, and David B. Fogel, editors, *Proceedings of the Fourth Annual Conference on Evolutionary Programming (EP95)*, page ?, San Diego, CA, 1.-3. March 1995. MIT Press. †(conf.prog) [ga95aKim](#).
- [144] Jérôme Kodjabachian and Jean-Arcady Meyer. Evolution and development of control architectures in animats. *Robotics and Autonomous Systems*, 16(2-4):161–182, December 1995. [ga95aKodjabachian](#).
- [145] Donald Dewar Leitch. *A New Genetic Algorithm for the Evolution of Fuzzy Systems*. PhD thesis, Oxford University, Engineering Science Department, 1995. (available via anonymous ftp site <ftp://robots.ox.ac.uk> directory /pub/outgoing/don file thesis.ps.Z)\* [ga95aLeitch](#).
- [146] Olivier Michel and Joëlle Biondi. From the chromosome to the neural network. In Pearson et al. [453], pages 80–83. [ga95aMichel](#).
- [147] Orazio Miglino, Henrik Hautop Lund, and Stefano Nolfi. Evolving mobile robots in simulated and real environments. *Artificial Life*, 2(4):417–434, Summer 1995. [ga95aMiglino](#).
- [148] Naoki Mitsumoto, Toshio Fukuda, Koji Shimojima, and Akio Ogawa. Micro autonomous robotic system and biologically inspired immune swarm strategy as a multi agent robotic system. In *Proceedings of the 1995 IEEE International Conference on Robotics and Automation*, volume 2, pages 2187–2192, Nagoya (Japan), 21.-27. May 1995. IEEE, New York. [ga95aMitsumoto](#).
- [149] M. Mohammadian and Russel James Stonier. Adaptive two layer fuzzy control of a mobile robot system. In ICEC'95 [454], pages 204–208. †(prog.) [ga95aMohammadian](#).
- [150] Stefano Nolfi and D. Parisi. Evolving non-trivial behaviors on real robots: An autonomous robot that pick up objects. Technical Report 95-03, National Research Council (C. N. R.), Institute of Psychology, Rome, 1995. †([?]) [ga95aNolfi](#).
- [151] O. Michel. Une approche inspiree de la vie artificielle pour la synthese d'agents autonomes. In ? [451], page ? †(conf.prog) [ga95aOMichel](#).
- [152] J. Ohwi, S.V. Ulyanov, and K. Yamafuji. GA in continuous space and fuzzy classifier system for opening of door with manipulator of mobile robot: new benchmark of evolutionary intelligent computing. In ICEC'95 [454], pages 257–261. †(prog.) [ga95aOhwi](#).

- [153] Qing chun Meng and Y. M. Hamam. Optimal dynamic control of a mobile robot by genetic algorithm with symmetric code – GASC. In *Proceedings of the 4th IEEE Conference on Control Applications*, pages 1146–1147, New York, 28.-29. September 1995. IEEE, New York. [ga95aQ-cMeng](#).
- [154] A. S. Rana and A. M. S. Zalzal. An evolutionary algorithm for collision free motion planning of multi-arm robots. In *IEE/IEEE Sheffield '95* [452], pages 123–129. †(conf.prog) [ga95aRana](#).
- [155] Shinsaku Fujimoto and Kazumasa Ohsaka. Estimation of modeling errors for robot manipulators using genetic algorithm. *Nippon Kikai Gakkai Ronbunshu C Hen*, 61(587):3059–3067, 1995. †(EI M185245/95) [ga95aSFujimoto](#).
- [156] Takanori Shibata, Kazuo Tanie, Tamotsu Abe, and Matsuo Nose. Skill based motion planning of a redundant manipulator by genetic algorithm. In *ICEC'95* [454], pages 473–478. †(prog.) [ga95aShibata](#).
- [157] Hyun-Sik Shim and Jong-Kwan Kim. Robust control of non-holonomic wheeled mobile robot based on evolutionary programming for optimal motion. In *ICEC'95* [454], pages 625–630. †(prog.) [ga95aShim](#).
- [158] Russel James Stonier. Adaptive learning using genetic algorithms and evolutionary programming in robotic systems. In *Proceedings of the 1st Korea - Australia Joint Workshop on Evolutionary Computation*, pages 183–198, Taejon (Korea), 26.-29. September 1995. The Korea Science Engineering Foundation, The Australian Academy of Science, The Australian Academy of Technological Sciences and Engineering, KAIST, Korea. [ga95aStonier](#).
- [159] Toshio Fukuda and G. Iritani. Self-organization and evolution in cellular robotic system. In ?, editor, *Proceedings of the International Conference on Recent Advances in Mechatronics*, volume 2, pages 923–930, Istanbul (Turkey), 14.-16. August 1995. Bogazici University Bebek, Istanbul. †(CCA97) [ga95aTFukuda](#).
- [160] El-Ghazali Talbi, Pierre Bessière, Juan-Manuel Ahuactzin, and Emmanuel Mazer. Practical handbook of genetic algorithms. volume 2, Applications, chapter 4. Parallel cooperating genetic algorithms: An approach to robot motion planning, pages 93–109. CRC Press, Boca Raton, FL, 1995. [ga95aTalbi](#).
- [161] Mika Vainio, T. Schönberg, Aarne Halme, and P. Jakubik. Optimizing the performance of a robot society in structured environment through genetic algorithms. In ?, editor, *Advances in Artificial Life, Third European Conference on Artificial Life*, volume 929 of *Lecture Notes in Artificial Intelligence*, pages 733–746, Granada (Spain), 4.-6. June 1995. Springer-Verlag, Berlin. †(CCA 80824/95) [ga95aVainio](#).
- [162] Thomas Willeke. Genetic evolution of behavior-oriented robots. In Koza [455], page ? †(Koza) [ga95aWilleke](#).
- [163] Y. H. Joo, Hee-Soo Hwang, Kwang-Bang Woo, and K. B. Kim. Fuzzy system modeling and its application to mobile robot control. In Z. Bien and K. C. Min, editors, *Fuzzy Logic and Its Applications to Engineering, Information Sciences, and Intelligent Systems, Proceedings of the 5th IFSA World Congress*, pages 147–156, Seoul (South Korea), ? 1995. Kluwer Academic Publishers, New York. †(Akateeminen) [ga95aYHJoo](#).
- [164] R. Braunstingl, J. Mujika, and J. P. Ulrbe. A wall following robot with a fuzzy logic controller optimized by a genetic algorithm. In *Proceedings of the 1995 IEEE International Conference on Fuzzy Systems*, volume 5, pages 77–82, Yokohama (Japan), 20.-24. March 1995. IEEE, New York, NY. †(CCA71243/95) [ga95bBraunstingl](#).
- [165] Carlos A. Coello Coello, Alan D. Christiansen, and A. H. Aguirre. Multiobjective design optimization of counterweight balancing of a robot arm using genetic algorithms. In *Proceedings of the 7th International Conference on Tools with Artificial Intelligence*, pages 20–23, Herndon, VA, 5.-8. November 1995. IEEE Computer Society Press, Los Alamitos, CA. †(CCA11871/95) [ga95bCoelloCoello](#).
- [166] Daehee Kang, Hideki Hashimoto, and Fumio Harashima. Position estimation for mobile robot using sensor fusion. In *Proceedings of the 1995 IEEE/RSJ international Conference on Intelligent Robots and Systems*, volume 1, pages 271–276, Pittsburgh, PA, 5.-9. August 1995. IEEE, Piscataway, NJ. †(EI M198555/95) [ga95bDKang](#).
- [167] Marco Dorigo. Alecsys and the autnomouse: learning to control a real robot by distributed classifier systems. *Machine Learning*, 19(3):209–240, 1995. †(EI M146832/95) [ga95bDorigo](#).
- [168] Russell Enns and Darryl Morrell. Terrain-aided navigation using the viterbi algorithm. *Journal of Guidance, Control, and Dynamics*, 18(6):1444–1449, 1995. (TARKASTA ONKO GA-ARTIKKELI) [ga95bEnns](#).
- [169] Philippe Gaussier and Stéphane Zrehen. Moving the frontiers between robotics and biology. *Robotics and Autonomous Systems*, 16(2-4):v–vii, 1995. [ga95bGaussier](#).
- [170] I-Ming Chen and Joel W. Burdick. Determining task optimal modular robot assembly configurations. In *Proceedings of the 1995 IEEE International Conference on Robotics and Automation*, pages 132–137, Nagoya (Japan), 21.-27. May 1995. IEEE, Piscataway, NJ. †(EI M201995/95) [ga95bI-MChen](#).

- [171] Akio Ishiguro, Satoru Kuboshiki, Shingo Ichikawa, and Yoshiki Uchikawa. Gait coordination of hexapod walking robots using mutual-coupled immune networks. In *ICEC'95* [454], pages 672–677. †(prog.) [ga95bIshiguro](#).
- [172] Kun Hsiang Wu, Chin Hsing Chen, and Jiann Der Lee. Fuzzy potential approach with the cache genetic learning algorithm for robot path planning. In *Proceedings of the 1995 IEEE International Conference on Systems, Man and Cybernetics*, volume 1, pages 478–482, Vancouver, BC (Canada), 22.-25. October 1995. IEEE, Piscataway, NJ. †(EI M039311/96) [ga95bKHWu](#).
- [173] Y. Kawauchi, M. Inaba, and T. Fukuda. Genetic evolution and self-organization of cellular robotic system. *JSME Int. J. C, Dyn. Control Robot. Des. Manuf. (Japan)*, 38(3):501–509, 1995. †(CCA90240/95) [ga95bKawauchi](#).
- [174] Seiji Koide, Shuntaro Suzuki, and Sadao Degawa. Palletize-planning system for multiple kinds of loads using GA search and traditional search. In *Proceedings of the 1995 International Conference on Intelligent Robots and Systems*, volume 3, pages 510–515, Pittsburgh, PA, 5.-9. August 1995. IEEE, Piscataway, NJ. †(EI M200102/95) [ga95bKoide](#).
- [175] Naoyuki Kubota and Toshio Fukuda. Study of dynamically reconfigurable robotic system (23th report, application of genetic algorithm to optimal location problem on self-organizing manufacturing system). *Nippon Kikai Gakkai Ronbunshu C Hen*, 61(592):4660–4665, 1995. †(EI M069414/96) [ga95bKubota](#).
- [176] Donald Dewar Leitch and Penelope Probert. A fuzzy model for evolution of behaviours in robotics. In ?, editor, *Proceedings of the Third European Congress on Intelligent Techniques and Soft Computing (EU-FIT'95)*, volume ?, page ?, Aachen (Germany), ? 1995. Elite-foundation. (available via anonymous ftp site [ftp.robots.ox.ac.uk](#) directory /pub/outgoing/don/ file [eufit95.ps.Z](#)) [ga95bLeitch](#).
- [177] A. Liegeois and T. Emmanuel. A genetic algorithm for outdoor robot path planning. In U. Rembold, R. Dillmann, L. O. Hertzberger, and T. Kanade, editors, *Proceedings of the International Conference on Intelligent Autonomous Systems*, page 730pp, Karlsruhe (Germany), 27.-30. March 1995. IOS Press, Amsterdam/ Ohmsha Ltd, Tokyo. †(P67069) [ga95bLiegeois](#).
- [178] Henrik Hautop Lund. Evolving robot control systems. In Jarmo T. Alander, editor, *Proceedings of the First Nordic Workshop on Genetic Algorithms and their Applications (1NWGA)*, Proceedings of the University of Vaasa, Nro. 2, pages 85–96, Vaasa (Finland), 9.-12. January 1995. University of Vaasa. (available via anonymous ftp site [ftp.uwasa.fi](#) directory [cs/1NWGA](#) file [Lund2.ps.Z](#)) [ga95bLund](#).
- [179] G. Mester. Neuro-fuzzy-genetic controller design for robot manipulators. In *Proceedings of the 21st International Conference on Industrial Electronics, Control and Instrumentation*, volume 1, pages 87–92, Orlando, FL, 6.-10. November 1995. IEEE, New York, NY. †(CCA28816/95) [ga95bMester](#).
- [180] Sadayoshi Mikami, Yukinori Kakazu, and Terence C. Fogarty. Broadcast based fitness sharing GA for conflict resolution among autonomous robots. In *Proceedings of the Evolutionary Computing*, pages 40–47, Sheffield (UK), 3.-4. April 1995. Springer-Verlag, Berlin (Germany). †(CCA8434/95) [ga95bMikami](#).
- [181] Francesco Mondada and Dario Floreano. Evolution and mobile autonomous robotics. In *Proceedings of the Evolutionary Engineering Approach*, pages 221–249, Lausanne (Switzerland), 2.-3. October 1995. Springer-Verlag, Berlin (Germany). †(CCA54464/96) [ga95bMondada](#).
- [182] H. Nagami and S. Sakano. Kinematics of robot by a new GA technique using artificial selection. In *Proceedings of the Seventh International Symposium on Microsystems, Intelligent Materials and Robots*, pages 564–567, Sendai (Japan), 27.-29. September 1995. Tohoku Univ, Sendai, Japan. †(CCA96736/96) [ga95bNagami](#).
- [183] T. Nagata, K. Konishi, and Hong-Bin Zha. Cooperative manipulations based on genetic algorithm using contact information. In *Proceedings of the 1995 IEEE/RSJ International Conference on Intelligent Robots and Systems*, volume 2, pages 400–405, Pittsburgh, PA, 5.-9. August 1995. IEEE Computer Society Press, Los Alamitos, CA. †(CCA90669/95) [ga95bNagata](#).
- [184] Stefano Nolfi and D. Parisi. Learning to adapt to changing environments in evolving neural networks. Technical Report NSAL-95012, National Research Council (C. N. R.), Institute of Psychology, Rome, 1995. †(?) [ga95bNolfi](#).
- [185] O. Pinchard, A. Liegeois, and T. Emmanuel. A genetic algorithm for outdoor robot path planning. In ?, editor, *Proceedings of the International Conference (ETSI KONFERENSSIN NIMI)*, pages 413–419, Karlsruhe, Germany, 27.-30. March 1995. IOS Press 1995, Amsterdam, Netherlands. †(CCA37021/96) [ga95bPinchard](#).
- [186] B. Porter and C. Allaoui. Performance measures in the genetic design of digital controllers for robotic manipulators. In *ICEC'95* [454], pages 509–514. †(prog.) [ga95bPorter](#).

- [187] Takanori Shibata, Tamotsu Abe, Kazuo Tanie, and Matsuo Nose. Motion planning of a redundant manipulator - criteria of skilled operators by fuzzy-ID3 and GMDH and optimization by GA. In *Proceedings of 1995 IEEE International Conference on Fuzzy Systems*, volume 5, pages 99–102, Yokohama (Japan), 20.-24. March 1995. IEEE, New York, NY. †(CCA71384/95) **ga95bShibata**.
- [188] Hartmut Surmann, Joerg Huser, and Liliane Peters. Fuzzy system for indoor mobile robot navigation. In *Proceedings of the 1995 IEEE International Conference on Fuzzy Systems*, volume 5, pages 71–76, Yokohama (Japan), 20.-24. March 1995. IEEE, Piscataway, NJ. †(EI M161969/95) **ga95bSurmann**.
- [189] Roger Toogood, Hong Hao, and Chi Wong. Robot path planning using genetic algorithms. In *Proceedings of the 1995 IEEE International Conference on Systems, Man and Cybernetics*, volume 1, pages 489–494, Vancouver, BC (Canada), 22.-25. October 1995. IEEE, Piscataway, NJ. †(EI M039313/96) **ga95bToogood**.
- [190] E. Tunstel, M.-R. Akbarzadeh-T., K. Kumbala, and M. Jamshidi. Hybrid fuzzy control schemes for robotics systems. In *Proceedings of the 10th IEEE International Symposium on Intelligent Control*, pages 171–176, Monterey, CA, 27.-29. August 1995. IEEE, Piscataway, NJ. †(EI M195137/96) **ga95bTunstel**.
- [191] S.V. Ulyanov, K. Yamafuji, K. Miyagawa, T. Tanaka, and T. Fukuda. Intelligent fuzzy motion control of mobile robot for service use. In *Proceedings of the 1995 IEEE /RSJ International Conference on Intelligent Robots and Systems*, volume 3, pages 486–489, Pittsburgh, PA, 5.-9. August 1995. IEEE, Piscataway, NJ. †(EI M198599/95) **ga95bUlyanov**.
- [192] Mika Vainio, T. Schönberg, and Aarne Halme. Evolving of a fitness based operation strategy for a robot society. In ?, editor, *Proceedings of the 2nd IFAC Conference on Intelligent Autonomous Vehicles*, page ?, Espoo (Finland), 12.-14. June 1995. IFAC. †(conf. prog.) **ga95bVainio**.
- [193] Toshio Fukuda and Koji Shimojima. Fusion of fuzzy, NN, GA to the intelligent robotics. In *Proceedings of the 1995 IEEE International Conference Systems, Man and Cybernetics*, volume 3, pages 2892–2897, Vancouver, BC (Canada), 22.-25. October 1995. IEEE, New York, NY. †(CCA2205/95) **ga95cFukuda**.
- [194] Akio Ishiguro, Yuji Watanabe, and Yoshiki Uchikawa. An immunological approach to dynamic behavior control for autonomous mobile robots. In ?, editor, *Proceedings of the IROS'95*, volume 1, pages 495–500, ?, ? 1995. ? †([222]) **ga95cIshiguro**.
- [195] Takanori Shibata, Tamotsu Abe, Kazuo Tanie, and Matsuo Nose. Motion planning by genetic algorithm for a redundant manipulator using an evaluation function based on criteria of skilled operators. In *Proceedings of the 1995 IEEE International Conference on Robotics and Automation*, volume 2, pages 2476–2481, Nagoya (Japan), 21.-27. May 1995. IEEE, New York. **ga95cShibata**.
- [196] Akio Ishiguro, S. Ichikawa, and Yoshiki Uchikawa. A gait acquisition of 6-legged walking robot using immune networks. *Journal of Robotics Society of Japan*, 13(3):125–128, ? 1995. (in Japanese; also as [76] in English) †([222]) **ga95dIshiguro**.
- [197] Henrik Hautop Lund. Pre-adaptations in populations of neural networks living in a changing environment. *Artificial Life*, 2(?):179–197, ? 1995. †([147]) **ga95dLund**.
- [198] Peter Nordin and Wolfgang Banzhaf. A genetic programming system learning obstacle avoiding behavior and controlling a miniature robot in real time. Technical Report SysReport 4/95, University of Dortmund, Fachbereich Informatik, 1995. **ga95dNordin**.
- [199] B. Porter and N. N. Zadeh. Genetic design of fuzzy-logic controllers for robotic manipulators. In ICEC'95 [454], pages 267–272. †(prog.) **ga95dPorter**.
- [200] Takanori Shibata, Tamotsu Abe, , and Matsuo Nose. Motion planning for a redundant manipulator by genetic algorithm using an evaluation function extracted from skilled operators. In *Proceedings of the 1995 Fuzzy-IEEE/IFES'95*, pages 883–888, ?, ? 1995. IEEE, New York. †([247]) **ga95dShibata**.
- [201] B. Porter and N. N. Zadeh. Genetic design of computer-torque/fuzzy-logic controllers for robotic manipulators. In *Proceedings of the 10th IEEE International Symposium on Intelligent Control*, pages 165–170, Monterey, CA, 27.-29 August 1995. IEEE, Piscataway, NJ. †(EI M195136/95) **ga95ePorter**.
- [202] Peter Nordin and Wolfgang Banzhaf. Real time evolution of behavior and a world model for a miniature robot using genetic programming. Technical Report SysReport 5/95, University of Dortmund, Fachbereich Informatik, 1995. **ga95eNordin**.
- [203] B. Porter. Genetic robustification of digital trajectory-tracking controller for robotic manipulators. In *Proceedings of the 1995 IEEE International Conference on Systems, Man and Cybernetics*, volume 5, pages 4422–4427, Vancouver, BC (Canada), 22.-25. October 1995. IEEE, Piscataway, NJ. †(EI M045224/96) **ga95ePorter**.

- [204] Peter Nordin and Wolfgang Banzhaf. Genetic programming controlling a miniature robot. In ?, editor, *Working Notes of the AAAI-95 Fall Symposium Series, Symposium on Genetic Programming*, pages 61–67, Cambridge, MA, 10.-12. November 1995. ? [ga95fNordin](#).
- [205] Alan C. Schultz, John J. Grefenstette, and William Adams. RoboShepherd: Learning a complex behavior. In ?, editor, *Proceedings of the FLAIRS'96*, volume ?, page ?, ?, ? 1996. ? [ga96aACSchultz](#).
- [206] Takemasa Arakawa and Toshio Fukuda. Natural motion trajectory generation of biped locomotion robot using genetic algorithm through energy optimization. In *Proceedings of the 1996 IEEE International Conference on Systems, Man and Cybernetics*, volume 2, pages 1495–1500, Beijing, China, 14.-17. October 1996. IEEE, Piscataway, NJ. †(EI M040057/97) [ga96aArakawa](#).
- [207] Dan Ashlock, John Walker, and James Oliver. Evolution of ultrasimple virtual robots. In *Proceedings of the 1996 IEEE International Joint Symposia on Intelligence and Systems*, volume ?, pages 170–177, Rockville, MD (USA), 4.-5. November 1996. IEEE, Los Alamitos, CA. †(EI M043255/97) [ga96aAshlock](#).
- [208] Nikos A. Aspragathos. Optimal location of path-following tasks in the workspace of a manipulator using genetic algorithms. In V. Parenticastelli J. Lenarcic, editor, *Proceedings of the Recent Advances in Robot Kinematics*, pages 179–188, Portoroz Bernardin, Slovenia, 22.-26. June 1996. Kluwer Academic Publ., Dordrecht. †(P74600) [ga96aAspragathos](#).
- [209] B. Porter and N. N. Zadeh. Genetic rule induction in the design of computed-torque/fuzzy-logic controllers for robotic manipulators. In *Proceedings of the 1996 IEEE International Symposium on Intelligent Control*, pages 325–329, Dearborn, MI, 15.-18. September 1996. IEEE, New York. [ga96aBPorter](#).
- [210] Karthik Balakrishnan and Vasant Honavar. On sensor evolution in robotics. In Koza et al. [456], page ? †(conf.prog) [ga96aBalakrishnan](#).
- [211] David Browne. Vision-based obstacle avoidance: A coevolutionary approach. Bachelor dissertation, Monash University, Australia, Department of Software Development, July 1996. †([457]) [ga96aBrowne](#).
- [212] Lawrence Bull and Terence C. Fogarty. Evolutionary computing in multi-agent environments: speciation and symbiogenesis. In Voigt et al. [458], pages 12–21. [ga96aBull](#).
- [213] P. Chedmail and E. Ramstein. Robot synthesis using genetic algorithms: analysis and evaluations. In *Proceedings of the Symposium on Robotics and Cybernetics*, pages 121–126, Lille, France, 9.-12. July 1996. Gerf. EC Lille - Cite Scientifique, Lille (France). †(CCA37314/97) [ga96aChedmail](#).
- [214] Fang-Chang Lin and Jane Yung jen Hsu. Coordination-based cooperation protocol in multi-agent robotic systems. In *Proceedings of the 1996 13th IEEE International Conference on Robotics and Automation*, volume 2, pages 1632–1637, Minneapolis, MN, 22.-28. April 1996. IEEE, Piscataway, NJ. †(EI M133720/96) [ga96aF-Lin](#).
- [215] Takeshi Furuhashi, Yujiro Miyata, and Yoshiki Uchikawa. Pseudo-bacterial genetic algorithm and finding of fuzzy rules. In *Proceedings of the Second Online Workshop on Evolutionary Computation (WEC2)*, pages 65–68, Nagoya (Japan), 4.-22. March 1996. ? [ga96aFuruhashi](#).
- [216] John C. Gallagher, Randall D. Beer, Kenneth S. Espenschied, and Roger D. Quinn. Application of evolved locomotion controllers to a hexapod robot. *Robotics and Autonomous Systems*, 19(1):95–103, 1996. [ga96aGallagher](#).
- [217] Andrew Goldfish. Noisy wall-following and maze navigation through genetic programming. In Koza et al. [456], page ? †(conf.prog) [ga96aGoldfish](#).
- [218] Ming Guan Zailin and Yang Shuzi. Mobile robot fuzzy control optimization using genetic algorithm. *Artif. Intell. Eng. (UK)*, 10(4):293–298, 1996. †(CCA96835/96) [ga96aGuanZailin](#).
- [219] H. Ito and Tatsumi Furuya. Memory-based neural network and its application to a mobile robot with evolutionary and experience learning. In ?, editor, *Proceedings of the First International Conference Evolvable Systems: From Biology to Hardware*, pages 234–246, Tsukuba, Japan, 7.-8. October 1996. Springer-Verlag, Berlin (Germany). †(CCA70638/97) [ga96aHIto](#).
- [220] Hidehiko Yamamoto. Robot path planning by scrap and build fitness method. *Nippon Kikai Gakkai Ronbunshu C Hen*, 62(602):3780–3785, 1996. [ga96aHYamamoto](#).
- [221] Philip Husbands. The artificial evolution of robot control systems. In Ian Parmee and M. J. Denham, editors, *Adaptive Computing in Engineering Design and Control '96 (ACEDC'96), 2nd International Conference of the Integration of Genetic Algorithms and Neural Network Computing and Related Adaptive Techniques with Current Engineering Practice*, page ?, Plymouth (UK), 26.-28. March 1996. ? †(conf.prog) [ga96aHusbands](#).

- [222] Akio Ishiguro, Toshiyuki Kondo, Yuji Watanabe, and Yoshiki Uchikawa. Immunoid: An immunological approach to decentralized behavior arbitration of autonomous mobile robots. In Voigt et al. [458], pages 666–675. [ga96aIshiguro](#).
- [223] Takuya Ito, Hitoshi Iba, and Masayuki Kimura. Robustness of robot programs generated by genetic programming. In Koza et al. [456], page ? †(conf.prog) [ga96aIto](#).
- [224] Jonathan Gibbs. Easy inverse kinematics using genetic programming. In Koza et al. [456], page ? †(conf.prog) [ga96aJGibbs](#).
- [225] Handlír Jirí. The use of evolution program for learning of artificial intelligence systems. In Ošmera [459], pages 43–46. [ga96aJiri](#).
- [226] Kun Hsiang Wu, Chin Hsing Chen, and Jiann Der Lee. Genetic-based adaptive fuzzy controller for robot path planning. In *Proceedings of the 1996 5th IEEE International Conference on Fuzzy Systems*, volume 3, pages 1687–1691, New Orleans, LA, 8.-11. September 1996. IEEE, Piscataway, NJ. [ga96aKHwu](#).
- [227] T. Kawakami and Y. Kakazu. A study on GA-based reactive planning systems of robot manipulators. In *Proceedings of the 6th International Conference on Advances in Production Management Systems - APM96*, pages 547–552, Kyoto (Japan), 4.-6. November 1996. Kyota Univ. (Kyota, Japan). †(CCA47532/97) [ga96aKawakami](#).
- [228] D. Keymeulen, M. Durantez, K. Konaka, Y. Kuniyoshi, and T. Higuchi. An evolutionary robot navigation system using a gate-level evolvable hardware. In ?, editor, *Proceedings of the First International Conference Evolvable Systems: From Biology to Hardware*, pages 195–209, Tsukuba, Japan, 7.-8. October 1996. Springer-Verlag, Berlin (Germany). †(CCA72825/97) [ga96aKeymeule](#).
- [229] L. Zhao, Yasuhiro Tsujimura, and Mitsuo Gen. Genetic algorithm for robot selection and work station assignment problem. *Comput. Ind. Eng. (UK)*, 31(3-4):599–602, 1996. †(CCA101693/96) [ga96aLZhao](#).
- [230] Brian Logan and Riccardo Poli. Route planning with GA\*. In *Proceedings of the First Online Workshop on Soft Computing (WSC1)*, pages 99–106, WWW (World Wide Web), 19.-30. August 1996. Nagoya University. [ga96aLogan](#).
- [231] Maja Mataric and Dave Cliff. Challenges in evolving controllers for physical robots. *Robotics and Autonomous Systems*, 19(1):67–83, November 1996. [ga96aMataric](#).
- [232] Olivier Michel and Philippe Collard. Artificial neurogenesis: an application to autonomous robotics. In *Proceedings of the 1996 IEEE 8th International Conference on Tools with Artificial Intelligence*, volume ?, pages 207–214, Toulouse, France, 16.-19. November 1996. IEEE, Piscataway, NJ. †(EI M024943/96) [ga96aMichel](#).
- [233] Lei Ming, Guan Zailin, and Yang Shuzi. Mobile robot fuzzy control optimization using genetic algorithm. *Artif. Intell. Eng. (UK)*, 10(4):293–298, 1996. †(CCA96835/96) [ga96aMing](#).
- [234] Kenichirou Nagasaka, Inaba Masayuki, and Hirohika Inoue. Acquisition of visually guided swing motion based on GA and NN by two-armed bipedal robot. *Nippon Kikai Gakkai Ronbunshu C Hen*, 602(62):3766–3771, 1996. †(EI M040049/97) [ga96aNagasaka](#).
- [235] A. C. Nearchou and N. A. Aspragathos. Application of genetic algorithms to point-to-point motion of redundant manipulators. *Mech. Mach. Theory*, 31(3):261–270, ? 1996. [ga96aNearchou](#).
- [236] Stefano Nolfi. Evolving non-trivial behaviors on real robots: A garbage collecting robot. Technical Report NSAL-96026, National Research Council (C. N. R.), Institute of Psychology, Rome, 1996. †([?]) [ga96aNolfi](#).
- [237] Peter Nordin and Wolfgang Banzhaf. An on-line method to evolve behavior and to control a miniature robot in real time with genetic programming. *Adaptive Behavior*, 5(2):107–140, Autumn 1996. †(SBS V. 29 No. 29) [ga96aNordin](#).
- [238] Markus Olmer, Peter Nordin, and Wolfgang Banzhaf. Evolving real-time behavioral modules for a robot with GP. In ?, editor, *Proceedings of the Sixth International Symposium on Robotics and Manufacturing (ISRAM-96)*, volume ?, page ?, Montpellier (France), ? 1996. ? [ga96aOlmer](#).
- [239] D. Pack, G. Toussaint, and R. Haupt. Robot trajectory planning using a genetic algorithm. In H. J. Caulfield and S. S. Chen, editors, *Proceedings of the Society of Photo-Optical Instrumentation Engineers (SPIE)*, volume SPIE-2824, page ?, Denver, CO, 4.-5. August 1996. SPIE - Int. Soc. Optical Engineering, Bellingham. †(P73379) [ga96aPack](#).
- [240] Q. Wang and A. M. S. Zalzal. Genetic control of near time-optimal motion for an industrial robot arm. In *Proceedings of the 1996 13th IEEE International Conference on Robotics and Automation*, volume 3, pages 2592–2597, Minneapolis, MN, 22.-28. April 1996. IEEE, Piscataway, NJ. †(EI M128309/96) [ga96aQWang](#).

- [241] Andreas Ronge and Mats G. Nordahl. Genetic programs and co-evolution: Developing robust general purpose controllers using local mating in 2-dimensional populations. In Voigt et al. [458], pages 81–90. [ga96aRonge](#).
- [242] Steven J. Ross, Jason M. Daida, Chau M. Doan, Tommaso F. Bersano-Begey, and Jeffrey J. McClain. Variations in evolution of subsumption architectures using genetic programming: The wall following robot revisited. In Koza et al. [456], page ? †(conf.prog) [ga96aRoss](#).
- [243] S. Fujimoto and K. Ohsaki. An estimation method of modeling errors for robot manipulators using a genetic algorithm. In ?, editor, *Proceedings of the Japan-USA Symposium on Flexible Automation*, volume 1, pages 91–94, Boston, MA, 7.-10. July 1996. ASME, New York, NY. †(CCA92327/97) [ga96aSFujimoto](#).
- [244] S. S. Ge, T. H. Lee, and G. Zhu. Genetic algorithm tuning of Lyapunov-based controllers: An application to single-link flexible robot system. *IEEE Transactions on Industrial Electronics*, 43(5):567–574, October 1996. [ga96aSSGe](#).
- [245] Shudong Sun, A. S. Morris, and A. M. S. Zalzal. Trajectory planning of multiple coordinating robots using genetic algorithms. *Robotica (UK)*, 14(?):227–234, 1996. [ga96aSSun](#).
- [246] Chi-Haur Sheu and Kuu-Young Young. A heuristic approach to robot path planning based on task requirements using a genetic algorithm. *J. Intell. Robot. Syst., Theory Appl. (Netherlands)*, 16(1):65–88, 1996. †(CCA71606/96) [ga96aSheu](#).
- [247] Takanori Shibata, Tamotsu Abe, Kazuo Tanie, and Matsuo Nose. Skill based motion planning in hierarchical intelligent control of a redundant manipulator. *Robotics and Autonomous Systems*, 18(?):65–73, ? 1996. [ga96aShibata](#).
- [248] Sinn Kim and Jong-Hwan Kim. Optimal path generation of a redundant manipulator with evolutionary programming. In *Proceedings of the 1996 IEEE 22nd International Conference on Industrial Electronics, Control, and Instrumentation (IECON)*, volume 3, pages 1909–1914, Taipei (Taiwan), 5.-10. August 1996. IEEE Computer Society Press, Los Alamitos, CA. [ga96aSinnKim](#).
- [249] Charles. C. W. Sullivan and Anthony G. Pipe. Efficient evolution strategies for exploration in mobile robotics. In Terence C. Fogarty?, editor, *Evolutionary Computing, Proceedings of the AISB96 Workshop*, pages 245–259, Brighton, UK, 1.-2. April 1996. ? [ga96aSullivan](#).
- [250] T. Naito, R. Odagiri, Y. Matsunaga, M. Tanifuji, and K. Murase. Genetic evolution of a logic circuit which controls an autonomous mobile robot. In ?, editor, *Proceedings of the First International Conference Evolvable Systems: From Biology to Hardware*, pages 210–219, Tsukuba, Japan, 7.-8. October 1996. Springer-Verlag, Berlin (Germany). †(CCA72826/97) [ga96aTNaito](#).
- [251] A. V. Topalov, Jong-Hwan Kim, and T. Ph Proychev. Neuro-genetic adaptive control with application to robot manipulators. In ?, editor, *Proceedings of the Third International Symposium on Methods and Models in Automation and Robotics*, volume 3, pages 955–960, Miedzyzdroje, Poland, 10.-13. September 1996. Tech. Univ. Szczecin, Szczecin (Poland). †(CCA64238/97) [ga96aTTopalov](#).
- [252] Wei-Ming Lee and Han-Pang Huang. Stabilization of nonholonomic mobile robots by a GA-based fuzzy sliding mode control. In *Proceedings of the 1996 Asian Fuzzy Systems Symposium*, pages 388–393, Kenting, Taiwan, 11.-14. December 1996. IEEE, New York, NY. †(CCA37353/97) [ga96aWMLee](#).
- [253] Keigo Watanabe. Intelligent control for robotic and mechatronic systems - a review. In *Proceedings of the 1996 IEEE International Conference on Systems, Man and Cybernetics*, volume 1, pages 322–327, Beijing, China, 14.-17. October 1996. IEEE, Piscataway, NJ. †(EI M084402/97) [ga96aWatanabe](#).
- [254] Hanqi Zhuang, Jie Wu, and Weizhen Huang. Optimal planning of robot calibration experiments by genetic algorithms. In *Proceedings of the 1996 IEEE International Conference on Robotics and Automation*, volume 2, pages 981–986, Minneapolis, MN, 22.-28. April 1996. IEEE, New York, NY. †(CCA63455/96) [ga96aZhuang](#).
- [255] R. J. Abbott, M. L. Campbell, and W. C. Krenz. Scheduling robotic actions by genetic algorithms. *Teleoperators and virtual environments*, 5(2):191–204, 1996. †(A96-33987) [ga96bAbbott](#).
- [256] B. Porter and N. N. Zadeh. Practical implementation of genetically designed computed-torque/fuzzy-logic controllers for robotic manipulators. In *Proceedings of the Fifth IEEE International Conference on Fuzzy Systems (FUZZ-IEEE'96)*, volume 1, pages 36–41, New Orleans, LA, 8.-11. September 1996. IEEE, New York. †(P72732) [ga96bBPorter](#).
- [257] Karthik Balakrishnan and Vasant Honavar. Experiments in evolutionary synthesis of robot neurocontrollers. In *Proceedings of the Thirteenth National Conference on Artificial Intelligence and the Eighth Innovative Applications of Artificial Intelligence Conference*, volume 2, page 1378, Portland, OR, 4.-8. August 1996. MIT Press, Cambridge, MA. †(CCA54852/97) [ga96bBalakrishnan](#).

- [258] Shumeet Baluja. Evolution of an artificial neural network based autonomous land vehicle controller. *IEEE Transactions on Systems, Man, and Cybernetics*, 26(3):450–463, 1996. [ga96bBaluja](#).
- [259] R. Boudreau and N. Turkkán. Solving the forward kinematics of parallel manipulators with a genetic algorithm. *J. Robot. Syst. (USA)*, 13(2):111–125, 1996. †(CCA28786/96) [ga96bBoudreau](#).
- [260] K. Brillowski and H. K. Toenshoff. Rechnergestützte entwurfsmethodik für handhabungsgeräte mit genetischen algorithmen [Computer-aided design of manipulators with genetic algorithms]. *Konstruktion*, 48(1-2):1–4, 1996. (in German) †(EI M060059/96) [ga96bBrillows](#).
- [261] P. Chedmail and E. Ramstein. Robot mechanism synthesis and genetic algorithms. In *Proceedings of the 1996 IEEE International Conference on Robotics and Automation*, volume 1-4, page ?, Minneapolis, MN, 22.-28. April 1996. IEEE, New York, NY. †(P68102) [ga96bChedmail](#).
- [262] David Cliff, Inman Harvey, and Phil Husbands. Evolutionary robotics. *IEE Colloq. Dig.*, ?(211):3pp, 1996. (ETSI onko proceedings) †(EI M096528/96) [ga96bCliff](#).
- [263] Shane Farritor, Steven Dubowsky, Nathan Rutman, and Jeffrey Cole. Systems-level modular design approach to field robotics. In *Proceedings of the 1996 IEEE 13th International Conference on Robotics and Automation*, volume 4, pages 2890–2895, Minneapolis, MN, 22.-28. April 1996. IEEE, Piscataway, NJ. †(EI M129237/96) [ga96bFarritor](#).
- [264] Dario Floreano and Francesco Mondada. Evolution of homing navigation in a real mobile robot. *IEEE Transactions on Systems, Man, and Cybernetics*, 26(3):396–407, 1996. [ga96bFloreano](#).
- [265] S. Galt and B. L. Luk. Joint control of a walking robot. *IEE Conf. Publ. ETSI konferenssi*, 427(2):884–888, 1996. †(EI M008933) [ga96bGalt](#).
- [266] V. Gorrini and Marco Dorigo. An application of evolutionary algorithms to the scheduling of robotic operations. In *Proceedings of the European Conference, Artificial Evolution*, pages 345–354, Brest (France), 4.-6. September 1996. Springer-Verlag, Berlin (Germany). †(53997/96) [ga96bGorrini](#).
- [267] Naohiro Hondo, Hitoshi Iba, and Yukinori Kakazu. Robust GP in robot learning. In Voigt et al. [458], pages 751–760. [ga96bHondo](#).
- [268] Jong-Hwan Kim and Chi-Ho Lee. Evolutionary ordered neural network and its application to robot manipulator control. In *Proceedings of the 1996 IEEE 22nd International Conference on Industrial Electronics, Control, and Instrumentation (IECON)*, volume 2, pages 876–880, Taipei (Taiwan), 5.-10. August 1996. IEEE Computer Society Press, Los Alamitos, CA. [ga96bJ-HKim](#).
- [269] Kun Hsiang Wu, Chin Hsing Chen, and Jiann Der Lee. Cache-genetic-based modular fuzzy neural network for robot path planning. In *Proceedings of the 1996 IEEE International Conference on Systems, Man and Cybernetics*, volume 4, pages 3089–3094, Beijing, China, 14.-17. October 1996. IEEE, Piscataway, NJ. [ga96bKHwu](#).
- [270] Lisa A. Meeden. An incremental approach to developing intelligent neural network controllers for robots. *IEEE Transactions on Systems, Man, and Cybernetics*, 26(3):474–485, 1996. [ga96bMeeden](#).
- [271] Pavel Ošmera. Optimization of path planning of mobile robots. In *Proceedings of the MENDEL'96* [459], pages 107–111. [ga96bOšmera](#).
- [272] Sung-Bae Cho and Seung-Ik Lee. Evolutionary learning of fuzzy controller for a mobile robot. In *Proceedings of the 4th International Conference on Soft Computing*, volume 2, pages 745–748, Fukuoka, Japan, 30. Sep - 5. Oct 1996. World Scientific, Singapore. †(CCA55711/97) [ga96bS-BCho](#).
- [273] E. Tunstel, M.-R. Akbarzadeh-T., Kishan K. Kumbla, and Mohammad Jamshidi. Soft computing paradigms for learning fuzzy controllers with applications to robotics. In *Proceedings of the 1996 Biennial Conference of the North American Fuzzy Information Processing Society - NAFIPS*, pages 355–359, Berkeley, CA, 19.-22. June 1996. IEEE, New York, NY. †(EI M142790/96 CCA78815/96) [ga96bTunstel](#).
- [274] Wei-Min Yun and Yu-Geng Xi. Optimum motion planning in joint space for robots using genetic algorithms. *Robotics and Autonomous Systems*, 18(4):373–393, October 1996. [ga96bW-MYun](#).
- [275] Takemasa Arakawa, Naoyuki Kubota, and T. Fukuda. Virus-evolutionary genetic algorithm with subpopulations: application to trajectory generation of redundant manipulator through energy optimization. In *Proceedings of the 1996 IEEE International Conference on Systems, Man and Cybernetics*, volume 3, pages 1930–1935, Beijing, China, 14.-17 October 1996. IEEE, New York, NY. †(CCA20924/97) [ga96cArakawa](#).
- [276] Naoyuki Kubota, Koji Shimojima, and Toshio Fukuda. Virus-evolutionary genetic algorithm – coevolution of planar grid model. In *Proceedings of the Fifth IEEE International Conference on Fuzzy Systems (FUZZ-IEEE'96)*, volume 1, pages 232–238, New Orleans, LA, 8.-11. September 1996. IEEE, New York. †(P72732) [ga96cKubota](#).



- [277] Q. Wang and A. M. S. Zalzal. Investigation into the decoding of genetic-based robot motion considering sequential and parallel formulations. In *Proceedings of the 1996 UKACC International Conference on Control*, pages 442–447, Exeter (UK), 2.-5. September 1996. IEE, Stevenage (UK). †(EI M008941/97) [ga96cQWang](#).
- [278] Marco Dorigo. Introduction to the special issue on learning autonomous robots. *IEEE Transactions on Systems, Man, and Cybernetics*, 26(3):361–364, 1996. [ga96dDorigo](#).
- [279] Naoyuki Kubota, Toshio Fukuda, and Koji Shimojima. Trajectory planning of cellular manipulator system using virus-evolutionary genetic algorithm. *Robotics and Autonomous Systems*, 19(1):85–94, November 1996. [ga96dKubota](#).
- [280] Q. Wang and A. M. S. Zalzal. Transputer based GA motion control for PUMA robot. *Mechatronics*, 6(3):349–365, 1996. [ga96dQWang](#).
- [281] Naoyuki Kubota, Koji Shimojima, and Toshio Fukuda. Trajectory planning of reconfigurable redundant manipulator using virus-evolutionary genetic algorithm. In *Proceedings of the 1996 IEEE 22nd International Conference on Industrial Electronics, Control, and Instrumentation (IECON)*, volume 2, pages 836–841, Taipei (Taiwan), 5.-10. August 1996. IEEE Computer Society Press, Los Alamitos, CA. [ga96eKubota](#).
- [282] Q. Wang and A. M. S. Zalzal. Investigations into robotic multi-joint motion considering multi-criteria optimisation using genetic algorithms. In ?, editor, *Proceedings of the 13th World Congress, International Federation of Automatic Control*, volume A, pages 301–306, San Francisco, CA, 30. June- 5. July 1996. Pergamon, Oxford, UK. †(CCA36704/98) [ga96eQWang](#).
- [283] N. Kubota, Toshio Fukuda, and Koji Shimojima. Trajectory planning of redundant manipulator using virus-evolutionary genetic algorithm. In *Proceedings of the Computational Engineering in Systems Applications*, pages 728–733, Lille, France, 9.-12. July 1996. Gerf EC Lille - Cite Scientifique, Lille (France). †(CCA37525/97) [ga96gKubota](#).
- [284] Takemasa Arakawa and Toshio Fukuda. Natural motion generation of biped locomotion robot using hierarchical trajectory generation method consisting of GA, EP layers. In *Proceedings of the 1997 IEEE International Conference on Robotics and Automation*, volume 1, pages 211–216, Albuquerque, NM, 20.-25. April 1997. IEEE, New York, NY. †(CCA81714/97) [ga97aArakawa](#).
- [285] B. Jerbic and B. Vranjes. Robot intelligence through the concept of evolution. In ?, editor, *Proceedings of the 8th International DAAAM Symposium*, pages 143–144, Dubrovnik, Croatia, 23.-25. October 1997. DAAAM International, Vienna, TU Wien. [ga97aBJerbic](#).
- [286] Karthik Balakrishnan and Vasant Honavar. Spatial learning for robot localization. In Koza et al. [460], page ? †(conf.prog) [ga97aBalakrishnan](#).
- [287] Wolfgang Banzhaf, Peter Nordin, and Markus Olmer. Generating adaptive behavior for a real robot using function regression within genetic programming. In Koza et al. [460], page ? †(conf.prog) [ga97aBanzhaf](#).
- [288] Forest H. Bennett III. A multi-skilled robot that recognizes and responds to different problem environments. In Koza et al. [460], page ? †(conf.prog) [ga97aBennett](#).
- [289] Wilker Shane Bruce. The lawnmower problem revisited: Stack-based genetic programming and automatically defined functions. In Koza et al. [460], page ? †(conf.prog) [ga97aBruce](#).
- [290] Ching C. Hsieh and Kong Ping Oh. Simulation and optimization of assembly processes involving flexible parts. *International Journal of Vehicle Design*, 18(5):455–465, ? 1997. [ga97aCCHsieh](#).
- [291] D. Kang, Hideki Hashimoto, and Fumio Harashima. Path generation for mobile using genetic algorithm. *Trans. Inst. Electr. Eng. Jpn. C (Japan)*, 117-C(2):102–109, 1997. In English †(CCA47515/97) [ga97aDKang](#).
- [292] Robert A. Dain. Genetic programming for mobile robot wall-following algorithms. In Koza et al. [460], page ? †(conf.prog) [ga97aDain](#).
- [293] Dario Floreano and Stefano Nolfi. God save the red queen! competition in co-evolutionary robotics. In Koza et al. [460], page ? †(conf.prog) [ga97aFloreano](#).
- [294] T. Fukuda and K. Shimijima. Adaptation, learning, and evolutionary computing for intelligent robots. In *Proceedings of the 5th Computational Intelligence Theory and Applications Fuzzy Days*, pages 217–228, Dortmund (Germany), 28.-30. April 1997. Springer-Verlag, Berlin (Germany). †(CCA71823/97) [ga97aFukuda](#).
- [295] Yasuhisa Hasegawa and Toshio Fukuda. Motion generation of two-link brachiation robot. In Koza et al. [460], page ? †(conf.prog) [ga97aHasegawa](#).
- [296] Abdollah Homaifar, M. Bikdash, and Vijayarangan Gopalan. Design using genetic algorithms of hierarchical hybrid fuzzy-PID controllers of two-link robotic arms. *J. Robot. Syst. (USA)*, 14(6):449–463, 1997. †(CCA64187/97) [ga97aHomaifar](#).

- [297] Hitoshi Iba. Multiple-agent learning for a robot navigation task by genetic programming. In Koza et al. [460], page ? †(conf.prog) **ga97aIba**.
- [298] A. Inaba, Kazuro Hamada, T. Suzuki, and Shigeru Okuma. Assembly planning considering a posture of a subassembly-search of a posture of a subassembly to avoid collision using genetic algorithm. *Trans. Inst. Syst. Control Inf. Eng. (Japan)*, 10(4):165–172, 1997. In Japanese †(CCA63783/97) **ga97aInaba**.
- [299] A. Ishiguro *et al.* Robot with decentralized consensus-making mechanism based on the immune system. In ?, editor, *Proceedings of the Third International Symposium on Autonomous Decentralized Systems (ISADS97)*, page ?, Berlin (Germany), 9.-11. April 1997. ? †(conf. prog.) **ga97aIshiguro**.
- [300] Jung-Min Yang and Jong-Hwan Kim. Generation of optimal fault tolerant locomotion of the hexapod robot over rough terrain using evolutionary programming. In *Proceedings of 1997 IEEE International Conference on Evolutionary Computation*, pages 489–494, Indianapolis, IN, 13.-16. April 1997. IEEE, New York, NY. †(CCA47493/97) **ga97aJ-MYang**.
- [301] Jing Xiao, Zbigniew Michalewicz, Lixin Zhang, and Krzysztof Trojanowski. Adaptive evolutionary planner/navigator for mobile robots. *IEEE Transactions on Evolutionary Computation*, 1(1):18–28, 1997. **ga97aJingXiao**.
- [302] Henrik Hautop Lund, J. Hallam, and Wei-Po Lee. Evolving robot morphology. In *Proceedings of IEEE International Conference on Evolutionary Computation*, pages 197–202, Indianapolis, IN, 13.-16. April 1997. IEEE, New York, NY. †(CCA47417/97) **ga97aLund**.
- [303] M.-Y. Cheng and C.-S. Lin. Genetic algorithm for control design of biped locomotion. *J. Robot. Syst. (USA)*, 14(5):365–373, May 1997. †(CCA 64099/97) **ga97aM-YCheng**.
- [304] Mingwu Chen and A. M. S. Zalzala. A genetic approach to motion planning of redundant mobile manipulator systems considering safety and configuration. *J. Robot. Syst. (USA)*, 14(7):529–544, 1997. †(CCA72760/97) **ga97aMChen**.
- [305] Greg McNutt. Using co-evolution to produce robust robot control. In John R. Koza, editor, *Genetic Algorithms and Genetic Programming at Stanford 1997*, page ?, Stanford, CA, Winter 1997. Stanford University Bookstore. †(Koza) **ga97aMcNutt**.
- [306] Olivier Michel. Comparing real and simulated evolutionary robotics. In ?, editor, *Proceedings of the Artificial Evolution 97 (EA'97) Conference*, page ?, Nimes (France), 22.-24. October 1997. Springer-Verlag, Berlin. **ga97aMichel**.
- [307] Andreas C. Nearchou and Nikos A. Aspragathos. A genetic path planning algorithm for redundant articulated robots. *Robotica*, 15(2):213–224, March-April 1997. **ga97aNearchou**.
- [308] Peng Chen, Y. Sasaki, and Toshio Toyota. Study on plant inspection and diagnosis robot. III. method of searching a faulty sound source by a manipulator with genetic algorithms control. *J. Jpn. Soc. Precision Eng. (Japan)*, 63(3):383–388, 1997. In Japanese †(CCA 72851/97 EEA89237/97) **ga97aPengChen**.
- [309] Ronie Navon and Anna M. McCrea. Selection of optimal construction robot using genetic algorithms. *Journal of Computing in Civil Engineering*, 11(3):175–183, July 1997. **ga97aRNavon**.
- [310] A. Rouvinen and H. Handroos. Robot positioning of a flexible hydraulic manipulator utilizing genetic algorithm and neural networks. In *Proceedings of the Fourth Annual Conference on Mechatronics and Machine Vision in Practice*, pages 182–187, Toowoomba (Australia), 23.-25. September 1997. IEEE, Piscataway, NJ. †(P77390/97) **ga97aRouvinen**.
- [311] Takanori Shibata, Tamotsu Abe, Kazuo Tanie, and Matsuo Nose. Motion planning by genetic algorithm for a redundant manipulator using a model of criteria of skilled operators. *Information Sciences*, 102(1-4):171–186, 1997. **ga97aShibata**.
- [312] Toshio Fukuda, Y. Komata, and T. Arakawa. Stabilization control of biped locomotion robot based learning with GAs having self-adaptive mutation and recurrent neural networks. In *Proceedings of the 1997 IEEE International Conference on Robotics and Automation*, volume 1, pages 217–222, Albuquerque, NM, 20.-25. April 1997. IEEE, New York, NY. †(CCA81715/97) **ga97aTFukuda**.
- [313] K. Trojanowski, Zbigniew Michalewicz, and Jing Xiao. Adding memory to the evolutionary planner/navigator. In *Proceedings of 1997 IEEE International Conference on Evolutionary Computation*, pages 483–487, Indianapolis, IN, 13.-16. April 1997. IEEE, New York, NY. †(CCA47492/97) **ga97aTrojanow**.
- [314] Woong-Gie Han, Seung-Min Baek, and Tae-Yong Kuc. GA based on-line path planning of mobile robots playing soccer games. In *Proceedings of the 40th Midwest Symposium on Circuits and Systems*, volume 1, pages 522–525, Sacramento, CA, 3.-6. August 1997. IEEE, Piscataway, NJ. **ga97aWoong-GieHan**.

- [315] Toshio Fukuda and Joji Shimojima. Hierarchical intelligent robotic system-adaptation, learning and evolution. In Michael Blumenstein, editor, *Proceedings of the International Conference on Computational Intelligence and Multimedia Applications*, pages 1–5, Gold Coast, QUE, Australia, February 1997. Watson Ferguson & Company (Griffith University). [ga97bFukuda](#).
- [316] Takeshi Furuhashi. Fuzzy evolutionary computation. In Pedrycz [461], chapter 2.2 Development of *if-then* rules with the use of DNA coding, pages 108–105. [ga97bFuruhashi](#).
- [317] Sushil John Louis and G. Li. Combining robot control strategies using genetic algorithms with memory. In *Proceedings of the 6th International Conference Evolutionary Programming*, pages 431–441, Indianapolis, IN, 13.-16. April 1997. Springer-Verlag, Berlin (Germany). †(CCA72829/97) [ga97bLouis](#).
- [318] Toshio Fukuda and Naoyuki Kubota. Adaptation, learning and evolution for intelligent robotic system. In *Proceedings of the 1997 IEEE International Symposium on Computational Intelligence in Robotics and Automation CIRA97*, volume ?, pages 204–209, Monterey, CA, 10.-11. July 1997. IEEE Computer Society Press, Los Alamitos, CA. †(CCA81615/97) [ga97bTFukuda](#).
- [319] K. Tagawa, T. Fukui, and H. Haneda. Application of genetic algorithm to scheduling problem of robot control computation. *Trans. Inst. Syst. Control Inf. Eng. (Japan)*, 10(6):321–330, 1997. In Japanese †(CCA72741/97) [ga97bTagawa](#).
- [320] Wei-Po Lee, J. Hallam, and Henrik Hautop Lund. Applying genetic programming to evolve behavior primitives and arbitrators for mobile robots. In *Proceedings of 1997 International Conference On Evolutionary Computation*, pages 501–506, Indianapolis, IN, 13.-16. April 1997. IEEE, New York, NY. †(CCA47495/97) [ga97bW-PLee](#).
- [321] Toshio Fukuda, Naoyuki Kubota, and Takemasa Arakawa. Fuzzy evolutionary computation. In Pedrycz [461], chapter 2.1 GA algorithms in intelligent robots, pages 82–105. [ga97cFukuda](#).
- [322] Peter Nordin. *Evolutionary Program Induction of Binary Machine Code and its Applications*. PhD thesis, University of Dortmund, 1997. †(GAdigest v11 n38) [ga97cNordin](#).
- [323] Carlos A. Coello Coello, Alan D. Christiansen, and Arturo Hernández Aguirre. Using a new GA-based multiobjective optimization technique for the design of robot arms. *Robotica*, 16(4):401–414, July-August 1998. [ga98aCACoelloCoello](#).
- [324] Dusko Katic and Miomir Vukobratovic. A neural network-based classification of environment dynamics for compliant of manipulation robots. *IEEE Transactions on Systems, Man, and Cybernetics*, 28(1):58–69, 1998. †(A98-18041) [ga98aDuskoKatic](#).
- [325] Yaochu Jin. Decentralized adaptive fuzzy control of robot manipulators. *IEEE Transactions on Systems, Man, and Cybernetics*, 28(1):47–57, 1998. †(A98-18040) [ga98aYaochuJin](#).
- [326] Min Zhao, Nirwan Ansari, and Edwin S. H. Hou. Mobile manipulator path planning by a genetic algorithm. In *Proceedings of the IROS'92*, 1992. [ga:Ansari92](#).
- [327] T. F. Cleghorn, Paul T. Baffes, and Lui Wang. Robot path planning using a genetic algorithm. In S. Griffin, editor, *Second Annual Workshop on Space Operations Automation and Robotics (SOAR 88)*, volume 3019 of *NASA Conference Publication*, pages 383–390, Wright State University, Dayton, OH, 20.-23. July 1988. NASA, Washington. †(P39561) [ga:Baffes88](#).
- [328] Paul T. Baffes and Lui Wang. Mobile transporter path planning using a genetic algorithm approach. In Sr. Wun C. Chiou, editor, *Space Station Automation IV*, volume SPIE-1006, pages 226–234, Cambridge, Massachusetts, 7. - 9. November 1988. The International Society for Optical Engineering. † (P39293) [ga:Baffes89](#).
- [329] Pierre Bessière. Genetic algorithms applied to formal neural networks: Parallel genetic implementation of a Boltzmann machine and associated robotic experimentations. In Varela and Bourguine [462], pages 310–314. [ga:Bessiere91a](#).
- [330] Andrea Bonarini. ELF: learning incomplete fuzzy rule sets for an autonomous robot. In ?, editor, *Proceedings of EUFIT '93*, pages 69–75, Aachen (Germany), ? 1993. ELITE Foundation. †(Dorigo) [ga:Bonarini93a](#).
- [331] Rodney A. Brooks. Artificial life and real robots. In Varela and Bourguine [462], pages 3–10. [ga:Brooks91a](#).
- [332] Thierry Chatroux. Algorithmes génétiques parallèles pour la planification de trajectoires de robots en environnement dynamique. Diplome engineer thesis, Conservatoire National des Artes et Metiers Centre Regional Associe de Grenoble, 1993. (in French) [ga:ChatrouxMStthesis](#).
- [333] Diane J. Cook. Using analytic and genetic methods to learn plans for mobile robots. In ?, editor, *Proceedings of the SPIE's OE/Aerospace and Remote Sensing Symposium (Machine Vision and Robotics)*, volume SPIE-1964, pages ?–?, Orlando, FL, 12. -16. April 1993. The International Society for Optical Engineering, Bellingham, WA. †(GAdigest V. 9 N. 48) [ga:DJCook93a](#).

- [334] Yuval Davidor. Analogous crossover. In J. David Schaffer, editor, *Proceedings of the Third International Conference on Genetic Algorithms*, pages 98–103, Georg Mason University, 4.-7. June 1989. Morgan Kaufmann Publishers, Inc. `ga:Davidor89a`.
- [335] Yuval Davidor. *Genetic algorithms for order dependent processes applied to robot path-planning*. PhD thesis, Imperial College for Science, Technology, and Medicine, 1989. † `ga:Davidor89c`.
- [336] Yuval Davidor. Robot programming with a genetic algorithm. In *Proceedings of the 1990 IEEE International Conference on Computer Systems and Software Engineering - CompEuro'90*, pages 186–191, Tel-Aviv (Israel), 8.-10. May 1990. IEEE Computer Society Press, Los Alamitos, CA. \* `ga:Davidor90a`.
- [337] Yuval Davidor. Lamarckian sub-goal reward in genetic algorithm. In Luigia Carlucci Aiello, editor, *ECAI 90 9th European Conference on Artificial Intelligence*, pages 189–194, Stockholm, 6.-10. August 1990. Pitman Publishing, London. `ga:Davidor90b`.
- [338] Yuval Davidor. *Genetic Algorithms and Robotics: A heuristic strategy for optimization*. World Scientific Publishing, Singapore, 1990. `ga:Davidor90book`.
- [339] Yuval Davidor and Yaron Goldberg. An evolution standing on the design of redundant manipulators. In Hans-Paul Schwefel and R. Männer, editors, *Parallel Problem Solving from Nature*, volume 496 of *Lecture Notes in Computer Science*, pages 60–69, Dortmund (Germany), 1.-3. October 1990. Springer-Verlag, Berlin. `ga:Davidor90c`.
- [340] Yuval Davidor. A genetic algorithm applied to robot trajectory generation. chapter 12, pages 144–165. Van Nostrand Reinhold, New York, 1991. `ga:Davidor91a`.
- [341] Yuval Davidor. Genetic algorithms in robotics. In B. Soucek, editor, *Fast intelligent processes, systems, and applications*, pages 323–338. John Wiley & Sons, New York, 1992. † `ga:Davidor92a`.
- [342] Yuval Davidor. Genetic algorithms for autonomous robot programming. In Kevin Warwick, editor, *Robotics: Applied mathematics and computational aspects*, pages 509–525. Oxford University Press, Oxford, UK, 1992. † `ga:Davidor92b`.
- [343] D. Jo and K. Didier. ? In ?, editor, ?, number 496 in *Lecture Notes in Computer Science*, pages 352–362. Springer-Verlag, Berlin, 1991. †(Diver93a) `ga:Didier91a`.
- [344] Marco Dorigo and Uwe Schnepf. A bootstrapping approach to robot intelligence: First results. Technical Report 90-068, Politecnico di Milano, Dipartimento di Elettronica, 1990. `ga:Dorigo90b`.
- [345] Marco Dorigo and Uwe Schnepf. Organisation of robot behaviour through genetic learning process. In *Proceedings of the Fifth International Conference on Advanced Robotics, Robots in Unstructured Environments*, volume 2, pages 1456–1460, Pisa (Italy), 19.-22. June 1991. IEEE Press. `ga:Dorigo91f`.
- [346] Marco Dorigo and Marco Colombetti. Robot shaping: Developing situated agents through learning. Technical Report TR-92-040, International Computer Science Institute (ICSI), Berkeley, CA, 1992. (available via anonymous ftp site `icsi.berkeley.edu` directory `/pub/techreports/1992` file `tr-92-040.ps.Z`) `ga:Dorigo92b`.
- [347] Marco Colombetti and Marco Dorigo. Learning to control an autonomous robot by distributed genetic algorithms. In Roitblat et al. [463], pages 305–312. `ga:Dorigo92c`.
- [348] Marco Dorigo and Uwe Schnepf. Genetics-based machine learning and behaviour based robotics: A new synthesis. *IEEE Transactions on Systems, Man, and Cybernetics*, 23(1):141–154, 1993. `ga:Dorigo93b`.
- [349] David B. Fogel and Lawrence J. Fogel. Optimal routing of multiple autonomous underwater vehicles through evolutionary programming. In *Proceedings of the Symposium on Autonomous Underwater Vehicle Technology*, pages 44–47, Washington, D.C., June 1990. IEEE Press, New York. †(Fogel/bib) `ga:Fogel190f`.
- [350] Lawrence J. Fogel, David B. Fogel, and J. Wirt Atmar. Robotics and artificial intelligence: Evolutionary programming for ASAT battle management. Final Report Contract No. DASG60-90-C-0071, Army Strategic Defense Command, 1990. †(Fogel) `ga:Fogel190o`.
- [351] David B. Fogel. Genetic algorithms and robotics: A heuristic strategy for optimization. *BioSystems*, 31(1):78–79, 1993. †(Fogel) `ga:Fogel193n`.
- [352] Yoshio Kawauchi, Makoto Inaba, and Toshio Fukuda. Self-organizing intelligence for cellular robotic system “CEBOT” with genetic knowledge production algorithm. In *Proceedings of the 1992 IEEE International Conference on Robotics and Automation*, volume 1, pages 813–818, Nice, France, 12. - 14. May 1992. IEEE Computer Society Press, Los Alamitos, California. `ga:Fukuda92a`.
- [353] Takanori Shibata and Toshio Fukuda. Selfish and coordinative planning for multiple robots by genetic algorithms. In *Proceedings of the 31st IEEE Conference on Decision and Control*, volume 3, pages 2686–2691, Tucson, AZ, December 1992. IEEE. †([360] CCA 68810/94) `ga:Fukuda92d`.

- [354] Tsuyoshi Ueyama, Toshio Fukuda, and Fumihito Arai. Structure configuration using genetic algorithm for cellular robotic system. In *Proceedings of the 1992 International Conference on Intelligent Robots and Systems (IROS'92)*, pages 1542–1549, ?, ? 1992. ? †(Fukuda) **ga:Fukuda92e**.
- [355] Tsuyoshi Ueyama, Toshio Fukuda, and Fumihito Arai. Structure organization using swarm intelligence for cellular robotic system. In *Proceedings of the Japan/U.S.A. Symposium on Flexible Automation*, pages 665–672, ?, ? 1992. ? †(Fukuda) **ga:Fukuda92f**.
- [356] Tsuyoshi Ueyama, Toshio Fukuda, and Fumihito Arai. Application of genetic algorithm for distributed decision making: Planning for structure configuration of cellular robotic system. In *Intelligent Control Systems ASME Winter Annual Meeting*, volume Proc. of DSC- Vol. 45, pages 33–38, ?, ? 1992. ? †(Fukuda) **ga:Fukuda92g**.
- [357] Takanori Shibata, Toshio Fukuda, Kazuhiro Kosuge, and Fumihito Arai. Path-planning for multiple mobile robots by genetic algorithms. In *Proceedings of the 2nd International Conference on Fuzzy Logic and Neural Networks (IIZUKA'92)*, volume 2, pages 747–750, Iizuka (Japan), 17.-22. July 1992. Fuzzy Logic Systems Institute. **ga:Fukuda92h**.
- [358] Takanori Shibata and Toshio Fukuda. Coordinative behavior in evolutionary multi-agent system by genetic algorithm. In *1993 IEEE International Conference on Neural Networks*, volume I, pages 209–214, San Francisco, CA, 28. March - 1. April 1993. IEEE. **ga:Fukuda93a**.
- [359] Tsuyoshi Ueyama and Toshio Fukuda. Knowledge acquisition and distributed decision making - cellular robotics approach using genetic algorithm based on local knowledge and local communication. In *Proceedings of the 1993 IEEE International Conference on Robotics and Automation*, volume 3, pages 167–172, Atlanta, Georgia, 2.-6. May 1993. IEEE Computer Society Press, Los Alamitos, CA. **ga:Fukuda93e**.
- [360] Takanori Shibata, Toshio Fukuda, and Kazuo Tanie. Fuzzy critic for robotic motion planning by genetic algorithm in hierarchical intelligent control. In *IJCNN'93-NAGOYA Proceedings of 1993 International Joint Conference on Neural Networks*, volume 1, pages 770–773, Nagoya (Japan), 25.-29. October 1993. IEEE. **ga:Fukuda93g**.
- [361] Takanori Shibata and Toshio Fukuda. Coordinative balancing in evolutionary multi-agent-robot system using genetic algorithm. In ? [464], pages 990–1000. **ga:Fukuda93k**.
- [362] Tsuyoshi Ueyama and Toshio Fukuda. Structural organization of cellular robot based on genetic information. In ? [464], pages 1060–1069. **ga:Fukuda93l**.
- [363] Takanori Shibata and Toshio Fukuda. Intelligent motion planning by genetic algorithm with fuzzy critic. In *Proceedings IEEE International Symposium on Intelligent Control*, pages 565–570, Chicago, IL, 25.-27. August 1993. IEEE, New York. **ga:Fukuda93m**.
- [364] Takanori Shibata and Toshio Fukuda. Coordinative behavior in evolutionary multi-agent-robot system. In *Proceedings of the IEEE-IROS'93 Conference on Intelligent Robots and Systems*, volume 1, pages 448–453, Yokohama (Japan), 26.-30. July 1993. IEEE, New York. **ga:Fukuda93n**.
- [365] Tsuyoshi Ueyama and Toshio Fukuda. Cooperative search using genetic algorithm based on local information – path planning for structure configuration of cellular robot. In *Proceedings of the IEEE-IROS'93 Conference on Intelligent Robots and Systems*, volume 2, pages 1110–1115, Yokohama (Japan), 26.-30. July 1993. IEEE, New York. **ga:Fukuda93o**.
- [366] Toshio Fukuda, Tadashi Kohno, and Takanori Shibata. Learning scheme for recurrent neural network by genetic algorithm. In *Proceedings of the IEEE-IROS'93 Conference on Intelligent Robots and Systems*, volume 3, pages 1756–1761, Yokohama (Japan), 26.-30. July 1993. IEEE, New York. **ga:Fukuda93p**.
- [367] Takanori Shibata and Toshio Fukuda. Path planning using genetic algorithms (2nd report, selfish planning and coordinative planning for multiple robot systems). *Nippon Kikai Gakkai Ronbunshu C Hen*, 59(560):1134–1141, April 1993. (in Japanese) †(EI 132304/93) **ga:Fukuda93q**.
- [368] Takanori Shibata, Toshio Fukuda, and Kazuo Tanie. Fuzzy critic for robotic motion planning by genetic algorithm. In ?, editor, *Proceedings of the 1993 ASME Winter Annual Meeting*, volume 48 of *ASME Dyn. Syst. Control Div. Publ. DSC*, pages 13–20, New Orleans, LA, November 28.- December 3. 1993. ASME, New York. †(EI M062975/94) **ga:Fukuda93u**.
- [369] Gary B. Parker. Genetic algorithms for the development of real-time multi-heuristic search strategies. Master's thesis, Naval Postgraduate School, Monterey, CA, 1992. †(N93-15876) **ga:GBParkerMSThesis**.
- [370] Willfried Jakob, Martina Gorges-Schleuter, and Christian Blume. Application of genetic algorithms to task planning and learning. In R. Männer and B. Manderick, editors, *Parallel Problem Solving from Nature, 2*, pages 291–300, Brussels, 28.-30. September 1992. Elsevier Science Publishers, Amsterdam. **ga:Gorges-Schleuter92a**.

- [371] Helen G. Cobb and John J. Grefenstette. Genetic algorithms for tracking changing environments. In Forrest [465], pages 523–530. [ga:Grefenstette93b](#).
- [372] Simon G. Handley. The automatic generation of plans for a mobile robot via genetic programming with automatically defined functions. In ?, editor, *Proceedings of the Fifth Workshop on Neural Networks: An International Conference on Computational Intelligence: Neural Networks, Fuzzy Systems, Evolutionary Programming, and Virtual Reality*, page ?, ?, ? 1991. ? †(Langdon/bib) [ga:Handley91a](#).
- [373] Simon G. Handley. The genetic planner: The automatic generation of plans for a mobile robot via genetic programming. In *Proceedings IEEE International Symposium on Intelligent Control*, pages 190–195, Chicago, IL, 25.-27. August 1993. IEEE, New York. [ga:Handley93b](#).
- [374] Simon G. Handley. The automatic generation of plans for a mobile robot via genetic programming with automatically defined functions. In *Proceedings of the 1993 International Simulation Technology Multiconference (SimTec '93)*, page ?, ?, ? 1993. †(Koza) [ga:Handley93c](#).
- [375] Simon G. Handley. The genetic planner – the automatic generation of plans for a mobile robot via genetic programming with automatically defined functions. In ?, editor, *Proceedings of the Fifth Workshop on Neural Networks: Academic/Industrial/NASA/Defence*, volume SPIE-2204, pages 73–78, San Francisco, CA, 7.-10. November 1993. The International Society for Optical Engineering. †(CCA 78847 P59914/94) [ga:Handley93d](#).
- [376] Inman Harvey, Philip Husbands, and David T. Cliff. Issues in evolutionary robotics. Technical Report CSRP219, University of Sussex, School of Cognitive and Computing Sciences, 1992. (also as [385]; available via anonymous ftp site [ftp.cogs.susx.ac.uk](#) directory /pub/reports/csrp file [csrp219.ps.Z](#)) [ga:Harvey92c](#).
- [377] David T. Cliff, Philip Husbands, and Inman Harvey. Evolving visually guided robots. Technical Report CSRP220, University of Sussex, School of Cognitive and Computing Sciences, 1992. (also as [384]; available via anonymous ftp site [ftp.cogs.susx.ac.uk](#) directory /pub/reports/csrp file [csrp220.ps.Z](#)) [ga:Harvey92d](#).
- [378] David T. Cliff, Philip Husbands, and Inman Harvey. Analysis of evolved sensory-motor controllers. Technical Report CSRP264, University of Sussex, School of Cognitive and Computing Sciences, 1992. (also as [386]; available via anonymous ftp site [ftp.cogs.susx.ac.uk](#) directory /pub/reports/csrp file [csrp264.ps.Z](#)) [ga:Harvey92e](#).
- [379] Philip Husbands, Inman Harvey, and David T. Cliff. Analysing recurrent dynamical networks evolved for robot control. Technical Report CSRP265, University of Sussex, School of Cognitive and Computing Sciences, 1992. (also as [388]; available via anonymous ftp site [ftp.cogs.susx.ac.uk](#) directory /pub/reports/csrp file [csrp265.ps.Z](#)) [ga:Harvey92f](#).
- [380] Inman Harvey, Philip Husbands, and David T. Cliff. Genetic convergence in a species of evolved robot control architecture. Technical Report CSRP267, University of Sussex, School of Cognitive and Computing Sciences, 1992. (also as [389]; available via anonymous ftp site [ftp.cogs.susx.ac.uk](#) directory /pub/reports/csrp file [csrp267.ps.Z](#)) [ga:Harvey92g](#).
- [381] David T. Cliff, Philip Husbands, and Inman Harvey. Evolving recurrent dynamical networks for robot control. In Albrecht et al. [444], pages 428–435. [ga:Harvey93a](#).
- [382] David T. Cliff, Philip Husbands, and Inman Harvey. Incremental evolution of neural network architectures for adaptive behaviour. In *Proceedings of the European Symposium on Artificial Neural Networks (ESANN'93)*, pages 39–44, Brussels (Belgium), 7.-9. April 1993. D Facto, Brussels. [ga:Harvey93b](#).
- [383] David T. Cliff, Philip Husbands, and Inman Harvey. Incremental evolution of neural network architectures for adaptive behaviour. Technical Report CSRP256, University of Sussex, School of Cognitive and Computing Science, 1993. (available via anonymous ftp site [ftp.cogs.susx.ac.uk](#) directory /pub/reports/csrp file [csrp256.ps.Z](#)) †(Harvey) [ga:Harvey93bb](#).
- [384] David T. Cliff, Philip Husbands, and Inman Harvey. Evolving visually guided robots. In Roitblat et al. [463], pages 374–383. also as [377] [ga:Harvey93c](#).
- [385] David T. Cliff, Philip Husbands, and Inman Harvey. Issues in evolutionary robotics. In Roitblat et al. [463], pages 364–373. also as [376] [ga:Harvey93d](#).
- [386] David T. Cliff, Philip Husbands, and Inman Harvey. Analysis of evolved sensory-motor controllers. In ? [464], pages 192–204. also as [378] [ga:Harvey93e](#).
- [387] Philip Husbands, Inman Harvey, and David T. Cliff. An evolutionary approach to situated AI. In *Proceedings of the 9th Bi-annual Conference of the Society for the Study of Artificial Intelligence and the Simulation of Behaviour (AISB 93)*, pages 61–70, Birmingham (UK), 29. March - 2. April 1993. IOS Press, Amsterdam. †(CCA 19250/93) [ga:Harvey93f](#).

- [388] Philip Husbands, Inman Harvey, and David T. Cliff. Analysing recurrent dynamical networks evolved for robot control. In ?, editor, *Proceedings of the 3rd IEE International Conference on ANNs*, page ?, ?, ? 1993. IEE Press. also as [379] † [ga:Harvey93g](#).
- [389] Inman Harvey, Philip Husbands, and David T. Cliff. Genetic convergence in a species of evolved robot control architecture. In Forrest [465]. also as [380] [ga:Harvey93ha](#).
- [390] David T. Cliff, Inman Harvey, and Philip Husbands. General visual robot controller networks via artificial evolution. In D. Casasent, editor, *Intelligent Robots and Computer Vision XII: Algorithms and Techniques*, volume SPIE-2055, page ?, Boston, MA, 7. -10. September 1993. The International Society for Optical Engineering. [ga:Harvey93k](#).
- [391] David T. Cliff, Inman Harvey, and Philip Husbands. General visual robot controller networks via artificial evolution. Technical Report Report CSRP318, University of Sussex, School of Cognitive and Computing Science, 1993. (also as [390]; available via anonymous ftp site [ftp.cogs.susx.ac.uk](#) directory /pub/reports/csrp file [csrp318.ps.Z](#)) [ga:Harvey93ka](#).
- [392] Sadayoshi Mikami, Hiroaki Tano, and Yukinori Kakazu. An autonomous legged robot that learns to walk through simulated evolution. In ? [464], pages 758–767. [ga:Kakazu93b](#).
- [393] Takashi Kawakami and Yukinori Kakazu. Study on an autonomous robot navigation problem using a classifier system. *Nippon Kikai Gakkai Ronbunshu C Hen*, 59(564):2339–2345, August 1993. †(EI Feb 94) [ga:Kawakami93a](#).
- [394] Ahmad R. Khoogar. *Kinematic motion planning for redundant robots using genetic algorithms*. PhD thesis, University of Alabama, 1989. †(DAI Vol. 51 No. 3) [ga:KhoogarThesis](#).
- [395] Jin-Oh Kim and Pradeep K. Khosla. A multi-population genetic algorithm and its application to design of manipulators. In *Proceedings of the 1992 IEEE/RSJ International Conference on Intelligent Robots and Systems*, pages 279–286, Raleigh, NC, 7. - 10. July 1992. [ga:Khosla92a](#).
- [396] John R. Koza and James P. Rice. Automatic programming of robots using genetic programming. In *AAAI-92 Proceedings Tenth National Conference on Artificial Intelligence*, pages 194–201, Jan Jose, California, 12. - 16. July 1992. AAAI Press/ The MIT Press. [ga:Koza92b](#).
- [397] John R. Koza. A genetic approach to the truck backer upper problem and the inter-twined spiral problem. In *Proceedings of the IJCNN International Joint Conference on Neural Networks*, volume IV, pages 310–318, Baltimore, MD, 7.-11. June 1992. IEEE, New York. [ga:Koza92c](#).
- [398] John R. Koza. A genetic approach to finding a controller to back up a tractor-trailed truck. In *Proceedings of the 1992 American Control Conference*, volume 3, pages 2307–2311, Chicago, Illinois, 24. -26. June 1992. American Automatic Control Council. [ga:Koza92d](#).
- [399] W. Kühn and A. Visser. Identification der Systemparameter 6-achsiger Gelenkarmroboter mit hilfe der Evolutionsstrategie [Identification of the system parameter of a 6 axis robot with the help of an evolution strategy]. *Robotersysteme*, 8(3):123–133, 1992. (in German) [ga:Kuhn92a](#).
- [400] D. P. Kwok, T. P. Leung, and S. Feng. Genetic algorithms for the optimal dynamic control of robot arms. In *Proceedings of the 19th Annual Conference of IEEE Industrial Electronic Society (IECON'93)*, volume 1, pages 381–385, Maui, HI, November 1993. IEEE Press, New York. [ga:Kwok93a](#).
- [401] M. Anthony Lewis, Andrew H. Fagg, and Alan Solidum. Genetic programming approach to the construction of a neural network for control of a walking robot. In *Proceedings of the 1992 IEEE International Conference on Robotics and Automation*, volume 3, pages 2618–2623, Nice (France), 12.-14. May 1992. IEEE Computer Society Press, Los Alamitos, CA. †(CCA 26693 EI 063875/93) [ga:MALewis92a](#).
- [402] John R. McDonnell and Ward C. Page. Mobile robot path planning using evolutionary programming. In Ray R. Chen, editor, *Proceedings of the Twenty-Fourth Asilomar Conference on Signals, Systems & Computers*, volume 2, pages 1025–1029, Pacific Grove, California, 5.-7. November 1990. The Computer Society of IEEE/Maple Press. [ga:McDonnell190](#).
- [403] John R. McDonnell, Brian Anderson, Ward C. Page, and F. G. Pin. Mobile manipulator configuration optimization using evolutionary programming. In Fogel and Atmar [466], pages 52–62. †(Back/bib/unp) [ga:McDonnell192c](#).
- [404] Ward C. Page, John R. McDonnell, and Brian Anderson. An evolutionary programming approach to multi-dimensional path planning. In Fogel and Atmar [466], pages 63–70. †(Back/bib/unp) [ga:McDonnell192d](#).
- [405] Brian Anderson, John R. McDonnell, and Ward C. Page. Configuration optimization of mobile manipulators with equality constraints using evolutionary programming. In Fogel and Atmar [466], pages 71–79. †(Back/bib/unp) [ga:McDonnell192e](#).

- [406] Hoi-Shan Lin, Jing Xiao, and Zbigniew Michalewicz. Evolutionary navigator for a mobile robot. Technical Report Technical Report 003-93, University of North Carolina at Charlotte, 1993. †(Michalewicz) [ga:Michalewicz93d](#).
- [407] Masaaki Minagawa and Yukinori Kakazu. Automatic heuristic rule generation for robot task planning - a genetic approach. In ?, editor, *Proceedings of the Singapore International Conference on Intelligent Control and Instrumentation (SICICI'92)*, page ?, Singapore, 17.-21. February 1992. † [ga:Minagawa92b](#).
- [408] Tomoharu Nagao, Takeshi Agui, and Hiroshi Nagahashi. Structural evolution of neural networks having arbitrary connection by a genetic method. *IEICE Transactions on Information and Systems*, E76-D(6):689–697, June 1993. [ga:Nagao93b](#).
- [409] René Natowicz and Gilles Venturini. Learning the behaviour of a simulated moving robot using genetic algorithms. In M. H. Hamza, editor, *Artificial Intelligence Application & Neural Networks (AINN'90)*, pages 49–52, Zürich, 25.-27. June 1990. ACTA Press, Anaheim, CA. [ga:Natowicz90](#).
- [410] Joey K. Parker, Ahmad R. Khoogar, and David E. Goldberg. Inverse kinematics of redundant robots using genetic algorithms. In *Proceedings of the 1989 IEEE International Conference on Robotics and Automation*, volume 1, pages 271–276, Scottsdale, AZ, 14.-19. May 1989. IEEE Computer Society Press, Los Alamitos, CA. [ga:Parker89](#).
- [411] Ahmad R. Khoogar and Joey K. Parker. Obstacle avoidance of redundant manipulators using genetic algorithms. In *IEEE Proceedings of the Southeast SOUTHEASTCON'91*, volume 1, pages 317–320, Fort Magruder, Williamsburg, VA, 7.-10. April 1991. IEEE, New York. †(P49310) [ga:Parker91a](#).
- [412] Brian Porter and Samir S. Mohamed. Genetic inversion of robot dynamics for trajectory control. In *1993, International Conference on Systems, Man and Cybernetics*, volume 3, pages 307–312, Le Touquet (France), 17.-20. October 1993. IEEE, New York. [ga:Porter93a](#).
- [413] Luis R. Lopez and Robert Elliot Smith. Evolving artificial insect brains for artificial compound eye robotics. In Roitblat et al. [463], pages 425–430. [ga:RESmith93c](#).
- [414] Robert Hong. Neurocontrols and vision for Mars robots. *Advanced Technology for Developers*, 1(2):1–, June 1992. †(Advanced ... index) [ga:RHong92a](#).
- [415] J. Solano and D. I. Jones. Generation of collision-free paths, a genetic approach. In *Proceedings of the IEE Colloquium on Genetic Algorithms for Control and Systems Engineering* [467], pages 5/1–5/6. †(CCA 65526/93) [ga:Solano93a](#).
- [416] Juan-Manuel Ahuactzin, El-Ghazali Talbi, Pierre Bessière, and Emmanuel Mazer. Using genetic algorithms for robot motion planning. In Bernd Neumann, editor, *ECAI 92 10th European Conference on Artificial Intelligence*, pages 671–675, Vienna (Austria), 3.-7. August 1992. John Wiley & Sons, Chichester. (available via anonymous ftp site [imag.fr](#) directory /pub/SYMPA file [talbi.ECAI92.e.ps.Z](#)) [ga:Talbi92a](#).
- [417] El-Ghazali Talbi, Pierre Bessière, Juan-Manuel Ahuactzin, and Emmanuel Mazer. Parallel robot motion planning in a dynamic environment. In L. Bourgé et al, editor, *Proceedings of the Second Joint International Conference on Vector and Parallel Processing CONPAR92-VAPP V*, volume 634 of *Lecture Notes in Computer Science*, pages 835–836, Lyon (France), September 1992. Springer-Verlag, Berlin. †(Talbi) [ga:Talbi92c](#).
- [418] Juan-Manuel Ahuactzin, El-Ghazali Talbi, Pierre Bessière, and Emmanuel Mazer. Un algorithme génétique pour la planification stochastique de trajectoires en robotique. In ?, editor, *Premières Rencontres Nationales des jeunes chercheurs en I. A.*, page ?, Rennes (France), September 1992. ? (in French) †(Talbi) [ga:Talbi92e](#).
- [419] Emmanuel Mazer, Juan-Manuel Ahuactzin, El-Ghazali Talbi, and Pierre Bessière. Robot motion planning with the ARIADNE'S CLEW algorithm. In F. C. A. Groen, S. Hirose, and Charles E. Thorpe, editors, *Intelligent Autonomous Systems IAS-3*, pages 196–205, Pittsburgh, PA, 15.-18. February 1993. IOS Press, Washington. [ga:Talbi93a](#).
- [420] Emmanuel Mazer, Juan-Manuel Ahuactzin, El-Ghazali Talbi, and Pierre Bessière. The ARIADNE'S CLEW algorithm. In Roitblat et al. [463], pages 182–188. [ga:Talbi93b](#).
- [421] Pierre Bessière, Juan-Manuel Ahuactzin, El-Ghazali Talbi, and Emmanuel Mazer. The “ARIADNE'S CLEW” algorithm: Global planning with local methods. In *Proceedings of the IEEE-IROS'93 Conference on Intelligent Robots and Systems*, volume 2, pages 1373–1380, Yokohama (Japan), 26.-30. July 1993. IEEE, New York. (available via anonymous ftp site [imag.fr](#) directory /pub/SYMPA file [talbi.IROS93.e.ps.Z](#)) [ga:Talbi93e](#).



- [422] Emmanuel Mazer, Juan-Manuel Ahuactzin, El-Ghazali Talbi, Pierre Bessière, and Thierry Chatroux. A massively parallel implementation of the ARIADNE'S CLEW algorithm. In ?, editor, *Proceedings of the International Workshop on Intelligent Robotic Systems IRS93*, page ?, Zakopane (Poland), July 1993. ? †(Talbi) ga: Talbi93f.
- [423] Emmanuel Mazer, Juan-Manuel Ahuactzin, El-Ghazali Talbi, Pierre Bessière, and Thierry Chatroux. Parallel motion planning with the ARIADNE'S CLEW algorithm. In ?, editor, *Proceedings of the Third International Conference on Experimental Robotics*, page ?, Kyoto (Japan), October 1993. ? †(Talbi) ga: Talbi93g.
- [424] Juan-Manuel Ahuactzin, El-Ghazali Talbi, Pierre Bessière, and Emmanuel Mazer. Using genetic algorithms for robot motion planning. In C. Laugier, editor, *Geometric Reasoning for Perception and Action*, volume 708 of *Lecture Notes in Computer Science*, pages 84–93, Grenoble (France), 16.-17. September 1991 1993. Springer-Verlag, Berlin. †(Talbi) ga: Talbi93i.
- [425] Eiichi Horiuchi and Kazuo Tani. Architecture and implementation issues about learning for a group of mobile robots with a distributable genetic algorithm. *Kikai Gijutsu Kenkyusho Shoho*, 47(6):247–256, November 1993. †(EI M054258/94) ga: Tani93a.
- [426] René Natowicz and Gilles Venturini. Learning the behaviour of a simulated moving robot using genetic algorithms. In Teuvo Kohonen and Françoise Fogelman-Soulie, editors, *Cognitiva 90 At the Crossroads of Artificial Intelligence, Cognitive Science, and Neuroscience, Proceedings of the Third COGNITIVA Symposium*, pages 645–654, Madrid, 20.-23. November 1990. North-Holland, Amsterdam. ga: Venturini90a.
- [427] René Natowicz and Gilles Venturini. Genetic algorithms and classifier systems for an autonomous moving robot. In ?, editor, *Proceedings of the IASTED International Symposium on Applied Modelling and Simulation*, page ?, ?, ? 1990. ? † ga: Venturini90b.
- [428] Gilles Venturini. Characterizing the adaptation abilities of a class of genetic based machine learning algorithms. In Varela and Bourguine [462], pages 302–309. ga: Venturini91a.
- [429] Gilles Venturini. AGIL: Solving the exploration versus exploitation dilemma in a simple classifier system applied to simulated robotics. In Derek Sleeman and Peter Edwards, editors, *Machine Learning, Proceedings of the Ninth International Workshop (ML92)*, pages 458–463. Morgan Kaufmann Publishers?, July 1992. ga: Venturini92a.
- [430] Hee-Soo Hwang, Y. H. Joo, H. K. Kim, and Kwang-Bang Woo. Identification of fuzzy control rules utilizing genetic algorithms and its application to mobile robots. In Peter J. Fleming and W. H. Kwon, editors, *Algorithms and Architectures for Real-Time Control (Korea, 1992)*, pages 249–254, Seoul (South Korea), August 31.- September 2. 1992. Pergamon Press, Oxford. †(P60350/94) ga: Woo92b.
- [431] K. K. Chang and A. M. S. Zalzal. Genetic based minimum-time trajectory planning of articulated manipulators with torque constraints. In *Proceedings of the IEE Colloquium on Genetic Algorithms for Control and Systems Engineering* [467], pages 4/1–4/3. †(EEA 79701/92 CCA 65525/93) ga: Zalzal93.
- [432] Hugo de Garis. Genetic programming: Evolution of a time dependent neural network module which teaches a pair of stick legs to walk. In Luigia Carlucci Aiello, editor, *ECAI 90 9th European Conference on Artificial Intelligence*, pages 204–206, Stockholm, 6.-10. August 1990. Pitman Publishing, London. ga: deGaris90f.
- [433] Jarmo T. Alander. On finding the optimal genetic algorithms for robot control problems. In *Proceedings IROS '91 IEEE/RSJ International Workshop on Intelligent Robots and Systems '91*, volume 3, pages 1313–1318, Osaka, 3.-5. November 1991. IEEE Cat. No. 91TH0375-6. GA: IROS'91.
- [434] Hans-Heinrich Both. Mechanic human head robot controlled by a fuzzy inference engine. In *Proceedings of the IEEE/IAS International Conference on Industrial Automation and Control Conference*, pages 71–76, Hyderabad, India, 5.-7. January 1995. IEEE, Piscataway, NJ. †(EI M179718/95) ga95aBoth.
- [435] Peng Chen and Toshio Toyota. Extraction method of failure signal by genetic algorithm and the application to inspection and diagnosis robot. *IEICE Transactions*, E78-A(12):1620–1626, December 1995. ga95aPChen.
- [436] T. Sugiyama, T. Kido, and M. Nakanishi. Evolving robot strategy for open ended game. In Xin Yao, editor, *Progress in Evolutionary Computation. Proceedings of the AI'93 and AI'94 Workshops on Evolutionary Computation*, volume 956 of *Lecture Notes in Artificial Intelligence*, pages 225–235, Melbourne and Armidale (Australia), 16. November 1993 and 21.-22. November 1994 1995. Springer Verlag, Berlin. †(Yao /conf. prog.) ga95aSugiyama.
- [437] David Barrett, Mark Grosenbaugh, and Michael Triantafyllou. Optimal control of a flexible hull robotic undersea vehicle propelled by an oscillating foil. In *Proceedings of the 1996 IEEE Symposium on Autonomous Underwater Vehicle Technology*, pages 1–9, Monterey, CA, 2.-6. June 1996. IEEE, Piscataway, NJ. †(EI M165842/96) ga96bBarrett.

- [438] Tomohiro Yoshikawa, Takeshi Furuhashi, and Yoshiki Uchikawa. Emergence of effective fuzzy rules for controlling mobile robots using DNA coding method. In *Proceedings of the 1996 IEEE International Conference on Evolutionary Computation*, pages 581–586, Nagoya, Japan, 20.-22. May 1996. IEEE, Piscataway, NJ. †(EI M159030/96) **ga96cYoshikawa**.
- [439] R. Richter. Evolution strategies applied to controls of a two axis robot. In ?, editor, *Proceedings of the International Conference on Computational Intelligence*, Lecture Notes in Computer Science, page ?, Dordmund, 28.-30. April 1997. Springer-Verlag, Berlin. (to appear) †(conf. prog.) **ga97aRichter**.
- [440] Tsuyoshi Ueyama, Toshio Fukuda, and Fumihito Arai. Coordinate planning using genetic algorithm - structure configuration of cellular robotic system. In *Proceedings of the 1992 IEEE International Symposium on Intelligent Control*, pages 249–254, Glasgow (Scotland), 11.-13. August 1992. IEEE. †(P56667) **ga:Fukuda92b**.
- [441] Inman Harvey. Evolutionary robotics and SAGA: the case for hill crawling and tournament selection. Technical Report CSRP222, University of Sussex, School of Cognitive and Computing Sciences, 1992. (also as [442]; available via anonymous ftp site `ftp.cogs.susx.ac.uk` directory `/pub/reports/csrp` file `csrp222.ps.Z`) **ga:Harvey92a**.
- [442] Inman Harvey. Evolutionary robotics and SAGA: the case for hill crawling and tournament selection. In C. G. Langton, C. Taylor, J. Doyne Farmer, and S. Rasmussen, editors, *Artificial Life III*, volume XVII of *SFI Studies in the Science of Complexity*, Santa Fe, NM, 15.-19. June 1993. Addison-Wesley, Redwood City, CA. also as [441] **ga:Harvey93j**.
- [443] Martina Gorges-Schleuter, W. Jakob, S. Meinzer, A. Quinte, W. Süß, and H. Eggert. An evolutionary algorithm for design optimization of microsystems. In Voigt et al. [458], pages 1022–1031. **ga96aGorges-Schleuter**.
- [444] R. F. Albrecht, C. R. Reeves, and N. C. Steele, editors. *Artificial Neural Nets and Genetic Algorithms*, Innsbruck, Austria, 13. -16. April 1993. Springer-Verlag, Wien. **ga:ANNGA93**.
- [445] Jarmo T. Alander, editor. *Proceedings of the First Finnish Workshop on Genetic Algorithms and their Applications*, volume TKO-A30 of *Research Reports*, Espoo (Finland), 4.-5. November 1992 1993. (partly in Finnish) **GA:GARapo93**.
- [446] *Proceedings of the First IEEE Conference on Evolutionary Computation*, Orlando, FL, 27.-29. June 1994. IEEE, New York, NY. **ga94ICCEC**.
- [447] Kenneth E. Kinneer, Jr., editor. *Advances in Genetic Programming*. MIT Press, Cambridge, MA, 1994. †(cessu) **ga94AGP**.
- [448] *Proceedings of the Second European Congress on Intelligent Techniques and Soft Computing (EUFIT'94)*, Aachen (Germany), 20.-23. September 1994. ELITE-Foundation. **ga94EUFIT**.
- [449] John R. Koza, editor. *Genetic Algorithms at Stanford 1994*, Stanford, CA, Fall 1994. Stanford Bookstore. †(Koza) **ga94Stanford**.
- [450] Juan R. Velasco and Luis Magdalena. Genetic algorithms in fuzzy control systems. In G. Winter, J. Périaux, M. Galán, and P. Cuesta, editors, *Genetic Algorithms in Engineering and Computer Science (EURO-GEN95)*, pages 141–165, Las Palmas (Spain), December 1995. John Wiley & Sons, New York. **ga95aVelasco**.
- [451] ?, editor. *Evolution Artificielle 95 (EA'95)*, Brest (France), 4.-6. September 1995. Springer-Verlag, Berlin. †(conf. prog.) **ga95EA**.
- [452] *Proceedings of the First IEE/IEEE International Conference on Genetic Algorithms in Engineering Systems: Innovations and Applications*, Sheffield (UK), 12.-14. September 1995. IEEE. †(conf. prog.) **ga95Sheffield**.
- [453] D. W. Pearson, N. C. Steele, and R. F. Albrecht, editors. *Artificial Neural Nets and Genetic Algorithms*, Alès (France), 19.-21. April 1995. Springer-Verlag, Wien New York. **ga95ICANNGA**.
- [454] *Proceedings of the Second IEEE Conference on Evolutionary Computation*, Perth (Australia), November 1995. IEEE, New York, NY. **ga95ICEC**.
- [455] John R. Koza, editor. *Genetic Algorithms at Stanford 1995*, Stanford, CA, 1995. Stanford Bookstore. †(Koza) **ga95Stanford**.
- [456] John R. Koza, David E. Goldberg, David B. Fogel, and Rick L. Riolo, editors. *Proceedings of the GP-96 Conference*, Stanford, CA, 28.-31. July 1996. MIT Press, Cambridge, MA. †(prog) **ga96GP**.
- [457] Catherine Bounsaythip and Jarmo T. Alander. Genetic algorithms in image processing - a review. In Jarmo T. Alander, editor, *Proceedings of the Third Nordic Workshop on Genetic Algorithms and their Applications (3NWGA)*, pages 173–192, Helsinki (Finland), 18.-22. August 1997. Finnish Artificial Intelligence Society (FAIS). (available via anonymous ftp site `ftp.uwasa.fi` directory `cs/3NWGA` file `Bounsaythip.ps.Z`) **ga97aBounsaythip**.

- [458] Hans-Michael Voigt, Werner Ebeling, Ingo Rechenberg, and Hans-Paul Schwefel, editors. *Parallel Problem Solving from Nature – PPSN IV*, volume 1141 of *Lecture Notes in Computer Science*, Berlin (Germany), 22.-26. September 1996. Springer-Verlag, Berlin. `ga96PPSN4`.
- [459] Pavel Ošmera, editor. *Proceedings of the MENDEL'96*, Brno (Czech Republic), June 1996. Technical University of Brno. `ga96Brno`.
- [460] John R. Koza, Kalyanmoy Deb, Marco Dorico, David B. Fogel, Max Garson, Hitoshi Iba, and Rick L. Riolo, editors. *Genetic Programming 1997: Proceedings of the Second Annual Conference*, Stanford, CA, 13.-16. July 1997. Morgan Kaufmann, San Francisco, CA. †(prog) `ga97GP`.
- [461] Witold Pedrycz, editor. *Fuzzy Evolutionary Computation*. Kluwer Academic Publishers, New York, 1997. `ga97aPedrycz`.
- [462] Francisco J. Varela and Paul Bourguine, editors. *Toward a Practice of Autonomous System: Proceedings of the First European Conference on Artificial Life*, Paris, 11.-13. December 1991. MIT Press, Cambridge, MA. `ga:ECAL91`.
- [463] H. Roitblat, Jean-Arcady Meyer, and Stewart W. Wilson, editors. *From Animals to Animats, Proceedings of the Second International Conference on Simulation of Adaptive Behavior (SAB92)*, Honolulu, HI, 7.-11. December 1992. The MIT Press, Cambridge, MA. `ga:SAB92`.
- [464] ?, editor. *Self-organization and life, from simple rules to global complexity, Proceedings of the Second European Conference on Artificial Life*, Brussels (Belgium), 24.-26. May 1993. MIT Press, Cambridge, MA. `ga:ECAL93`.
- [465] Stephanie Forrest, editor. *Proceedings of the Fifth International Conference on Genetic Algorithms*, Urbana-Champaign, IL, 17.-21. July 1993. Morgan Kaufmann, San Mateo, CA. `ga:GA5`.
- [466] David B. Fogel and J. Wirt Atmar, editors. *Proceedings of the 1st Annual Conference on Evolutionary Programming*, LaJolla, CA, 21.-22. February 1992. Evolutionary Programming Society, San Diego. † `ga:EP92`.
- [467] *Proceedings of the IEE Colloquium on Genetic Algorithms for Control and Systems Engineering*, volume Digest No. 1993/130, London, 28. May 1993. IEE, London. `ga:IEEGA93`.

## Notations

†(ref) = the bibliography item does not belong to my collection of genetic papers.  
 (ref) = citation source code. ACM = ACM Guide to Computing Literature, EEA = Electrical & Electronics Abstracts, BA = Biological Abstracts, CCA = Computers & Control Abstracts, CTI = Current Technology Index, EI = The Engineering Index (A = Annual, M = Monthly), DAI = Dissertation Abstracts International, P = Index to Scientific & Technical Proceedings, BackBib = Thomas Bäck's unpublished bibliography, Fogel/Bib = David Fogel's EA bibliography, etc  
 \* = only abstract seen.  
 ? = data of this field is missing (BiBTeX-format).

The last field in each reference item in Teletype font is the BiBTeXkey of the corresponding reference.





# Appendix A

## Abbreviations

The following other abbreviations were used to compress the titles of articles in the permutation title index:

AI	= Artificial Intelligence	Int.	= International
Alg.	= Algorithm(s)	ImPr	= Image Processing
AL	= Artificial Life	JSS	= Job Shop Scheduling
ANN(s)	= Artificial Neural Net(work)(s)	ML	= Machine Learning
Appl.	= Application(s), Applied	Nat.	= Natural
Appr.	= Approach(es)	NN(s)	= Neural Net(work)(s)
Cntr.	= Control, Controlled, = Controlling, Controller(s)	Opt.	= Optimization, Optimal, = Optimizer(s), Optimierung
Coll.	= Colloquium	OR	= Operation(s) Research
Comb.	= Combinatorial	Par.	= Parallel, Parallelism
Conf.	= Conference	Perf.	= Performance
CS(s)	= Classifier System(s)	Pop.	= Population(s), Populational(ly)
Distr.	= Distributed	Proc.	= Proceedings
Eng.	= Engineering	Prog.	= Programming, Program(s), Programmed
EP	= Evolutionary Programming	Prob.	= Problem(s)
ES	= Evolutionsstrategie(n), = Evolution(ary) strategies	QAP	= Quadratic Assignment Problem
Evol.	= Evolution, Evolutionary	Rep.	= Representation(s), Representational(ly)
ExS(s)	= Expert System(s)	SA	= Simulated Annealing
FF(s)	= Fitness Function(s)	Sch.	= Scheduling, Schedule(s)
GA(s)	= Genetic Algorithm(s)	Sel.	= Selection, Selectionism
Gen.	= Genetic(s), Genetical(ly)	Symp.	= Symposium
GP	= Genetic Programming	Syst.	= System(s)
Ident.	= Identification	Tech.	= Technical, Technology
Impl.	= Implementation(s)	TSP	= Travel(l)ing Salesman Problem

# Appendix B

## Bibliography entry formats

footnotesize This documentation was prepared with  $\LaTeX$  and reproduced from camera-ready copy supplied by the editor. The ones who are familiar with  $\text{BIBTEX}$  may have noticed that the references are printed using `abbrv` bibliography style and have no difficulties in interpreting the entries. For those not so familiar with  $\text{BIBTEX}$  are given the following formats of the most common entry types. The optional fields are enclosed by "[ ]" in the format description. Unknown fields are shown by "?". † after the entry means that neither the article nor the abstract of the article was available for reviewing and so the reference entry and/or its indexing may be more or less incomplete.

**Book:** Author(s), *Title*, Publisher, Publisher's address, year.

### Example

John H. Holland. *Adaptation in Natural and Artificial Systems*. The University of Michigan Press, Ann Arbor, 1975.

**Journal article:** Author(s), Title, *Journal*, volume(number): first page – last page, [month,] year.

### Example

David E. Goldberg. Computer-aided gas pipeline operation using genetic algorithms and rule learning. Part I: Genetic algorithms in pipeline optimization. *Engineering with Computers*, 3(?):35–45, 1987. †.

**Note:** the number of the journal unknown, the article has not been seen.

**Proceedings article:** Author(s), Title, editor(s) of the proceedings, *Title of Proceedings*, [volume,] pages, location of the conference, date of the conference, publisher of the proceedings, publisher's address.

### Example

John R. Koza. Hierarchical genetic algorithms operating on populations of computer programs. In N. S. Sridharan, editor, *Eleventh International Joint Conference on Artificial Intelligence (IJCAI-89)*, pages 768–774, Detroit, MI, 20.-25. August 1989. Morgan Kaufmann, Palo Alto, CA. †.

**Technical report:** Author(s), Title, type and number, institute, year.

### Example

Thomas Bäck, Frank Hoffmeister, and Hans-Paul Schwefel. Applications of evolutionary algorithms. Technical Report SYS-2/92, University of Dortmund, Department of Computer Science, 1992.