DANIEL NIKOVSKI

CURRICULUM VITAE

ACADEMIC BACKGROUND

Doctor of Philosophy: Robotics   1995 - 2001
Ph.D. Thesis: *State-aggregation algorithms for learning probabilistic models for robot control*
Supervisors: Illah Nourbakhsh, Tom Mitchell
The Robotics Institute, School of Computer Science
Carnegie Mellon University

Master of Science: Computer Science   1993 - 1995
M.S. Thesis: *Adaptive computation techniques for time series prediction*
Supervisor: Mehdi Zargham
Department of Computer Science
Southern Illinois University at Carbondale

Postgraduate Fellow: Neural Networks   1993
Supervisor: Peter Braspenning
Department of Computer Science
University of Limburg at Maastricht, Holland

Bachelor of Engineering: Computer Systems and Control   1988 - 1992
B.S. Thesis: *Cognitive architectures for speech recognition*
Supervisor: Nikola Kasabov
Department of Computer Systems and Control
Technical University Sofia, Bulgaria

GRANTS AND AWARDS

AAAI'2000 Doctoral Consortium travel grant   2000
$800 travel grant from AAAI/Microsoft

University fellowship   1992 - 1993
$7,000 from Southern Illinois University

Postgraduate research mobility grant   1992 - 1993
€3,000 grant from TEMPUS Joint European Project 1728

Competitions
Winner of the SIU Collegiate Programming Contest   1994
Winner of the TU-Sofia Olympiad in Programming   1989, 1991
Member of the National High-School Programming Team   1988
of Bulgaria

PUBLICATIONS   (abstracts or full text available at **http://www.cs.cmu.edu/~danieln**)

JOURNAL ARTICLES

[1] **Constructing Bayesian networks for medical diagnosis from incomplete and partially correct statistics**
Nikovski, D.
IEEE Transactions on Knowledge and Data Engineering (2000)

TEXTBOOKS

[2] **Artificial intelligence**
Dimitrov, D. and Nikovski, D.
Technical University Sofia Press (first edition 1997, second edition 1999)

REFEREED CONFERENCE PAPERS

[3] **Learning probabilistic models for decision-theoretic navigation of mobile robots**
Nikovski, D. and Nourbakhsh, I.
International Conference on Machine Learning (2000)

[4] **Learning discrete Bayesian models for autonomous agent navigation**
Nikovski, D. and Nourbakhsh, I.
IEEE International Symposium on Computational Intelligence in Robotics and Automation (1999)

[5] **Visual memory-based learning for mobile robot navigation**
Nikovski, D.
Second International Conference on Computational Intelligence and Neurosciences (1997)

[6] **Comparison of two learning networks for time series prediction**
Nikovski, D. and Zargham, M.
Ninth International Conference IEA/AIE (1996)

[7] **Evolving legged locomotion in virtual creatures**
Nikovski, D.
Midwest AI and Cognitive Science Society Conference (1995)

[8] **Speech recognition based on Kohonen self-organizing feature maps and hybrid connectionist systems**
Kasabov, N., Nikovski, D., and Peev, E.
First New Zealand International Two Stream Conference on Artificial Neural Networks and Expert Systems (1993)

[9] **Prognostic expert systems in a hybrid connectionist environment**
Kasabov. N. and Nikovski, D.
Artificial Intelligence V: Methodology, Systems, and Applications (1992)

TECHNICAL REPORTS

[10] **Dynamic programming for optimal scheduling of elevator group control**
Nikovski, D. and Brand, M.
Mitsubishi Electric Research Laboratories, Cambridge (2001)

[11] **Building, maintaining, and reasoning with Bayesian networks for medical diagnosis**
Nikovski, D.
Siemens Corporate Research, Princeton (1997)

ARTICLES IN PREPARATION

[12] **Learning probabilistic models for state grounding and tracking of mobile robots**
Nikovski, D. and Nourbakhsh, I.

[13] **Learning state grounding for optimal visual servo-control of dynamic manipulation**
Nikovski, D. and Nourbakhsh, I.

[14] **State-aggregation algorithms for learning probabilistic models for robot control**
Nikovski, D. and Nourbakhsh, I.

[15] **Dynamic programming for optimal scheduling of elevator group control**
Nikovski, D. and Brand, M.

[16] **Reinforcement learning in continuous state spaces by exact integration in Bellman's equations**
Nikovski, D. and Brand, M.

[17] **Fast reinforcement learning in continuous action spaces**
Nikovski, D.

PROFESSIONAL ACTIVITIES

Reviewing
Neural Information Processing Systems, Computational Intelligence in Robotics and Automation, Neural Computing Surveys

Committee Service

CMU Robotics Institute seminar committee member	1996	-	1999
CMU RoboOrg officer	1997	-	1998
CMU Graduate Student Association representative	1996	-	1997

Membership
Association for Computing Machinery

TEACHING EXPERIENCE

Computer Vision			1998
Carnegie Mellon University, Teaching Assistant			
Neural Networks			1994
Southern Illinois University, Lecturer			
Business Computing	1993	-	1994
Southern Illinois University, Teaching Assistant			

INDUSTRIAL EXPERIENCE

Mitsubishi Electric Research Laboratories, Cambridge   2000 - present
Developed a new algorithm for optimal elevator group scheduling based on exact evaluation of passenger waiting times by means of fast dynamic programming expansions of state space.

Siemens Corporate Research, Princeton   1996, 1997
Designed a probabilistic reasoning engine for medical diagnosis in C++/Java and developed a new method for building probabilistic networks from incomplete and partially correct statistics.

International Computers Ltd., Sofia, Bulgaria   1991 - 1993
Presales support engineer.

Research and Development Lab Programa, Plovdiv, Bulgaria   1986 - 1987
Developed a module for linguistic compression of customer names in databases.

REFERENCES

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The Robotics Institute   Tel: (412) 268-2007
Carnegie Mellon University   Fax:(412) 268-7350
5000 Forbes Ave.   Email: illah@cs.cmu.edu
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Prof. Benjamin Kuipers
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