Michael Katz
Curriculum Vitae

PERSONAL DETAILS

Year and place of birth:	1977, USSR
Marital status:	Married
Mailing Address:	Saarland University
	Campus E1 1
	66123 Saarbruecken, Germany
Electronic Mail:	katz@cs.uni-saarland.de
World Wide Web:	http://fai.cs.uni-saarland.de/katz/

ACADEMIC DEGREES

Ph.D. 2010, IS, Faculty of Industrial Engineering and Management, Technion, Israel.

M.Sc. 2007, IS, Faculty of Industrial Engineering and Management, Technion, Israel.

B.A. 2002, Math and Computer Science, Faculty of Mathematics, Technion, Israel.

RESEARCH INTERESTS

Autonomous systems and Artificial Intelligence (AI), general (domain independent) problem solving, planning and heuristic search, planning complexity, schema covering and schema matching, constraint satisfaction and optimization, combinatorics and graph algorithms.

TEACHING EXPERIENCE

- *Introduction to Artificial Intelligence*, Technion (096210), Winter 2010 (TA)

- *Automated Planning*, Technion (096208), Spring 2008, Spring 2009 (TA)

- *Heuristic Search Algorithms Seminar*, Saarland University, Winter 2012

- *Automatic Planning*, Saarland University, Winter 2012 (TA)

PUBLICATIONS

Thesis

- M. Katz, *Implicit Abstraction Heuristics for Cost-Optimal Planning*, PhD Thesis, Faculty of Industrial Engineering and Management, Technion Israel Institute of Technology, Technion City, Haifa, Israel.
  Summary published in AI Communications Journal, 2011, Volume 24, Number 4, pages 343-345.

Journal Papers

- C. Domshlak, M. Katz, S. Lefler, *Landmark-Enhanced Abstraction Heuristics*, Artificial Intelligence Journal (AIJ), 2012, Volume 189, pages 48-68.

- M. Katz, C. Domshlak, *Implicit Abstraction Heuristics*, Journal of Artificial Intelligence Research (JAIR), 2010, Volume 39, pages 51-126.

- M. Katz, C. Domshlak, *Optimal Admissible Composition of Abstraction Heuristics*, Artificial Intelligence Journal (AIJ), 2010, Volume 174, pages 767-798.

- M. Katz, C. Domshlak, *New Islands of Tractability of Cost-Optimal Planning*, Journal of Artificial Intelligence Research (JAIR), 2008, Volume 32, pages 203-288.

Conference Papers

- M. Katz, E. Keyder, *Structural Patterns Beyond Forks: Extending the Complexity Boundaries of Classical Planning*, 26th AAAI Conference on Artificial Intelligence (AAAI), 2012, Toronto, Canada.

- M. Katz, J. Hoffmann, M. Helmert, *How to Relax a Bisimulation?*, The International Conference on Automated Planning and Scheduling (ICAPS), 2012, Sao Paulo, Brazil.

- C. Domshlak, M. Katz*, A. Shleyfman, *Enhanced Symmetry Breaking in Cost-Optimal Planning as Forward Search*, The International Conference on Automated Planning and Scheduling (ICAPS), 2012, Sao Paulo, Brazil.

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*Authors are ordered alphabetically

- E. Karpas, M. Katz*, S. Markovitch, *When Optimal is Just Not Good Enough: Learning Fast Informative Action Cost-Partitioning*, The International Conference on Automated Planning and Scheduling (ICAPS), 2011, Frieburg, Germany.

- C. Domshlak, M. Katz*, S. Lefler, *When Abstractions Met Landmarks*, The International Conference on Automated Planning and Scheduling (ICAPS), 2010, Toronto, Canada.

- M. Katz, C. Domshlak, *Structural-Pattern Databases*, The International Conference on Automated Planning and Scheduling (ICAPS), 2009, Thessaloniki, Greece.

- M. Katz, C. Domshlak, *Structural Patterns Heuristics via Fork Decomposition*, The International Conference on Automated Planning and Scheduling (ICAPS), 2008, Sydney, Australia.

- M. Katz, C. Domshlak, *Optimal Additive Composition of Abstraction-based Admissible Heuristics*, The International Conference on Automated Planning and Scheduling (ICAPS), 2008, Sydney, Australia.

- M. Katz, C. Domshlak, *Structural patterns of tractable sequentially-optimal planning*, The International Conference on Automated Planning and Scheduling (ICAPS), 2007, Providence, RI.

PUBLIC PROFESSIONAL ACTIVITIES

- Lecturer at the ICAPS 2013 Summer School.

- Co-Chair of the 5th Workshop on Heuristics and Search for Domain-independent Planning (HSDIP'13) at ICAPS 2013.

- Member of the Program Committee of ICAPS'11, IJCAI'11, AAAI'11, ICAPS'12, CP4PS'12, HSDIP'12, ICAPS'13, IJCAI'13

- Co-Chair of the 3rd Workshop on Heuristics for Domain-Independent Planning (HDIP'11) at ICAPS 2011.

- Reviewer for the AIJ, JAIR, AI Communications journals.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- Association for the Advancement of Artificial Intelligence (AAAI)

- Israel Association for Artificial Intelligence (IAAI)

AWARDS AND PRIZES

- ICAPS Best Dissertation Award 2011.

- Department Recognition Award, Intel 2007.

PROFESSIONAL EXPERIENCE

1. Department of Computer Science, Saarland University, Germany
   Postdoctoral Fellow: May, 2012 - present. Host: Prof. Jörg Hoffmann.

   - Delete relaxation based heuristics for satisficing planning
   - Abstraction based heuristics for cost-optimal planning
   - Project leading:
     - Developement of the "Bisimulator" – abstraction based optimal planner
     - Developement of the "Red-Black" – delete relaxation based satisficing planner
     - Developement of the "DKS-sat" – symmetry pruning based satisficing planner

2. Institut national de recherche en informatique et en automatique (INRIA), France
   Postdoctoral Fellow: September, 2011 - May, 2012. Host: Prof. Jörg Hoffmann.

   - Abstraction based heuristics for cost-optimal planning
   - Project leading:
     - Developement of the "Bisimulator" – abstraction based optimal planner
     - Developement of the "DKS-opt" – symmetry pruning based optimal planner

3. Faculty of Industrial Engineering and Management, Technion, Haifa
   Postdoctoral Fellow: September, 2010 - August, 2011. Host: Prof. Avigdor Gal.

   - Solving schema matching and other real life problems with planning
   - Project developement:
     - NisB Project: Developement of the overall architecture, optimization solutions.

4. Artificial Intelligence Research Group – IE&M, Technion, Haifa
   Researcher: September, 2010 - August, 2011

   - Implicit Abstraction Heuristics
   - Project leading:
     - Developement of the "ForkInit" – abstraction based optimal planner
     - Developement of the "IForkInit" – abstraction based optimal planner
     - Developement of the "LMFork" – abstraction based optimal planner
     - Developement of the "ForkUniform" – abstraction based satisficing planner

5. Artificial Intelligence Research Group – IE&M, Technion, Haifa
   PhD candidate: September, 2007 - August, 2010. Advisor: Prof. Carmel Domshlak.

   - Implicit Abstraction Heuristics
   - Project leading:
     - Developement of the "ForkInit" – abstraction based optimal planner
     - Developement of the "IForkInit" – abstraction based optimal planner

6. Intel Development Center (IDC) — Haifa, Israel
   Software Engineer: February, 2006 - September, 2007

   - Developing Online User Requirements Gathering System
   - Developing CAD tools

7. GL urban systems planning ltd — Tel Aviv, Israel
   Algorithm Developer: February, 2004 - February, 2006

   - Developing algorithms for public transportation needs.
   - Developing various applications for non-professional users.
   - Developing installers for non-professional users.