

Peter Herald Stone

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RESEARCH STATEMENT

I am a computer scientist with research specialization in artificial intelligence. My long-term research goal is to create complete, robust, autonomous agents that can *learn to interact* with other intelligent agents in a wide range of complex, dynamic environments. These agents must sense their environment; engage in high-level cognitive decision-making; and then execute their actions in the environment. Moreover, to be effective, they should improve their performance automatically over time and reason explicitly about the behaviors of other agents, including teammates and adversaries. Thus, my research contributions are mainly in the areas of machine learning, autonomous agents and multiagent systems, robotics, and e-commerce. Application domains have included robot soccer, autonomous bidding agents, intelligent traffic management, social agents, and autonomous vehicles.

PROFESSIONAL PREPARATION

- **Carnegie Mellon University**, Pittsburgh, PA
Ph.D., Computer Science, December 1998.
Dissertation: *Layered Learning in Multi-Agent Systems*.
Thesis committee: Manuela Veloso (chair), Andrew Moore, Herbert Simon, Victor Lesser.
M.S., Computer Science, December 1995.
- **The University of Chicago**, Chicago, IL
B.S., Mathematics with honors and a concentration in Computer Science, June 1993.

APPOINTMENTS

- **The University of Texas at Austin**, September 2007 – present.
Associate Professor in the Department of Computer Sciences and Center for Perceptual Systems.
- **The Hebrew University of Jerusalem** and **Bar Ilan University**, September 2008 – June 2009.
Visiting Professor in the Computer Science Departments.
- **The University of Texas at Austin**, June 2002 – August 2007.
Assistant Professor in the Department of Computer Sciences and Center for Perceptual Systems.
- **Sidley Austin LLP**, May – July 2009.
Consultant. Patent infringement case expert.
- **Corporation for National Research Initiatives (CNRI)**, May – September 2002.
Consultant. Developed possibilities for future DARPA programs pertaining to multiagent systems.
- **New York University**, September 2001 – January 2002.
Adjunct Professor in the Computer Science Department.
- **AT&T Labs — Research**, September 1999 – March 2002.
Senior Researcher in the Artificial Intelligence Department.
- **Carnegie Mellon University**, January 1999 – August 1999.
Postdoctoral Fellow in the Computer Science Department.
- **Perspectives, Inc.**, April 1998 – March 1999.
Consultant. Created a comprehensive report on the state of the art in multiagent systems.
- **Carnegie Mellon University**, August 1993 – December 1998.
Graduate Research Assistant. Created a framework by which multiple intelligent agents can learn to act both individually and in coordination with one another in real-time, noisy, collaborative, and adversarial environments. Developed a flexible commitment strategy for interleaving planning and execution in the PRODIGY planner.
- **Jet Propulsion Laboratory**, May – August 1995.
Summer intern. Worked on automatic planning and scheduling for the New Millennium Project.

AWARDS AND RESEARCH DISTINCTIONS

- RoboCup **US Open Champion** team leader, standard platform league, May 2009.
- **William David Blunk Memorial Professorship**, in recognition of undergraduate teaching, 2008–09.
- **Fulbright Award**, 2008–09.
- **Guggenheim Fellow**, 2008–09.
- Elected **Board Member**, International Foundation of Autonomous Agents and Multi-Agent Systems (IFAAMAS), March 2008.
- Austin Business Journal **Tech Innovation Award**, November 2007.
- **Best Paper Award**, RoboCup Symposium, July 2007.
- **IJCAI Computers and Thought Award**, January 2007.
- **Best Paper Award**, Genetic and Evolutionary Computation Conference, GA Track, July 2006.
- **Best Student Paper Award**, RoboCup Symposium, June 2006.
- **Best Paper Award Nominee**, RoboCup Symposium, June 2006.
- Elected **Councilor**, American Association of Artificial Intelligence (AAAI), July 2005–2008.
- **Alfred P. Sloan Research Fellow**, September 2004 – 2006.
- **Office of Naval Research (ONR) Young Investigator**, June 2004 – May 2007.
- **IBM Faculty Award**, 2005, 2004, 2003.
- Leader of **1st-place** teams in the **Trading Agent Competition (TAC)**, July 2008; May 2006; August 2005; August 2003; October 2001; July 2000.
- **World Champion** team member in 6 **RoboCup** events: simulator coach competition, July 2005, July 2003; simulator competition, August 1999; simulator and small-size robot competitions, July 1998; small-size robot competition, August 1997.
- National Science Foundation **CAREER Award**, February 2003 – January 2008.
- **Best Paper Award**, Autonomous Agents Conference, May 2001.
- AT&T Labs — **Research Innovator**, 2000.
- **NASA Graduate Student Research Program Fellowship**, 1997 – 1999.
- **Allen Newell Medal for Research Excellence**, August 1997.
- **NASA Certificate of Recognition** for the creative development of a technical innovation entitled “DCAPS Iterative Repair Planning and Scheduling System,” June 1997.
- **Pennsylvania Space Grant Consortium** fellowship, 1996.
- **Hertz Foundation Research Fellowship Grant**, 1995. (note: not the Hertz Graduate Fellowship)
- **National Science Foundation** honorable mention, 1993, 1994.
- **Undergraduate Research Stipend** – Florida State University, June – August 1992.
- **State Farm Exceptional Student Fellowship**, June 1992.
- **The University of Chicago : Phi Beta Kappa, Sigma Xi, Dean’s List** every year, **College Honor Scholarship**: merit-based 4-yr, full-tuition scholarship, **National Merit Scholarship, Maroon Key Society, Student Marshall, Scholar-Athlete Award**: 4-yr varsity letterman with highest GPA.

TEACHING

- **Associate Professor** at **The University of Texas at Austin**: September 2007 – present.
CS 344M *Autonomous Multiagent Systems*. Spring 2008. Instructor rating: 4.9/5.0
CS 394R *Reinforcement Learning: Theory and Practice*. Autumn 2007. Instructor rating: 4.9/5.0
- **Assistant Professor** at **The University of Texas at Austin**: June 2002 – August 2007.
CS 378 *Autonomous Vehicles — Driving in Traffic*. Spring 2007. Instructor rating: 4.7/5.0
CS 395T *Agent-Based Electronic Commerce*. Autumn 2006. Instructor rating: 4.9/5.0
CS 378 *Autonomous Multiagent Systems*. Spring 2006. Instructor rating 4.8/5.0
CS 395T *Autonomous Robots*. Autumn 2005. Instructor rating 4.7/5.0
CS 378 *Autonomous Multiagent Systems*. Spring 2005. Instructor rating: 4.9/5.0
CS 395T *Reinforcement Learning: Theory and Practice*. Autumn 2004. Instructor rating: 4.7/5.0
CS 378 *Autonomous Multiagent Systems*. Spring 2004. Instructor rating: 4.8/5.0
CS 395T *Agent-Based Electronic Commerce*. Autumn 2003. Instructor rating: 4.6/5.0
CS 395T *Multi-Robot Systems*. Spring 2003. Instructor rating: 4.3/5.0
CS 378 *Autonomous Multiagent Systems*. Autumn 2002. Instructor rating: 4.9/5.0

- **Adjunct Professor at New York University:** September 2001 – January 2002.
Graduate class *Autonomous Multiagent Systems*. Autumn 2001. Instructor rating: 4.6/5.0
- **Tutorials** on *autonomous bidding agents* at AAMAS-07 and AAI-07, May – July 2007.
- **Tutorials** on *robot soccer* at AAI-99, Agents-99, and IJCAI-99, May – August 1999.
- **Teaching Assistant**, *How to Think Like a Computer Scientist* with Prof. Steven Rudich. Spring 1996.
- **Teaching Assistant**, *Introduction to Artificial Intelligence* with Prof. Jaime Carbonell. Spring 1995.
- **College Mathematics Tutor** at the University of Chicago. 1992-93.
- **Private Violin Teacher** in Buffalo, NY. Taught 40 students individually. August 1989-August 1991.

THESIS COMMITTEES

- **Doctoral Committee Supervisor:** (The University of Texas at Austin)
 - Matthew E. Taylor, defended June 2008.
Autonomous Inter-Task Transfer in Reinforcement Learning Domains.
 - Daniel Stronger, defended June 2008.
Autonomous Sensor and Action Model Learning for Mobile Robots.
 - Shimon Whiteson, defended April 2007.
Adaptive Representations for Reinforcement Learning.
 - Mohan Sridharan, defended April 2007.
Robust Structure-Based Autonomous Color Learning on a Mobile Robot.
 - Kurt Dresner, current, (proposal Summer 2006).
Intersections of the Future: A Multiagent Systems Approach.
 - Gregory Kuhlmann, current (proposal Autumn 2006).
Autonomous Sensor and Actuator Model Induction on a Mobile Robot.
 - Nicholas K. Jong, current (proposal Autumn 2006).
Automatic Induction of Generalization Hierarchies for Reinforcement Learning.
 - David Pardoe, current (proposal Autumn 2007).
Adaptive Trading Agent Strategies Using Market Experience.
 - Mazda Ahmadi, current (proposal Autumn 2007).
Cooperative Multirobot Systems for Continual Tasks.
 - Jonathan Wildstrom (proposal Spring 2008).
Learning Agents for Autonomic Computing.
- **Doctoral Committee Member:** (The University of Texas at Austin)
 - Michael Bond, Computer Sciences, current. Supervisor: Kathryn McKinley.
Diagnosing And Tolerating Bugs In Deployed Systems, defended September 2008.
 - Patrick Beeson, Computer Sciences. Supervisor: Ben Kuipers.
Creating And Utilizing Hybrid Representations Of Spatial Knowledge Using Mobile Robots, defended August 2008.
 - Selim Erdogan, Computer Sciences. Supervisor: Vladimir Lifschitz.
A Library of General-Purpose Action Descriptions, defended July 2008.
 - Tal Tversky, Computer Sciences. Supervisor: Risto Miikkulainen, Bill Geisler.
Motion Perception and Scene Statistics of Motion, defended April 2008.
 - Nedialko Dimitrov, Computer Sciences. Supervisor: Greg Plaxton.
Coping with Dynamic Membership, Selfishness, and Incomplete Information: Applications of Probabilistic Analysis and Game Theory, defended April 2008.
 - Youngin Shin, Computer Sciences, current. Supervisor: Don Fussell.
Parametric Kernels for Structured Data Analysis, defended December 2007.
 - Karen Fullam, Electrical and Computer Engineering (ECE). Supervisor: K. Suzanne Barber.
Adaptive Trust Modeling in Multi-Agent Systems: Utilizing Experience and Reputation, defended November 2007.
 - Rohit Kate, Computer Sciences. Supervisor: Ray Mooney.
Learning For Semantic Parsing With Kernels Under Various Forms Of Supervision, defended August 2007.
 - Jefferson Provost, Computer Sciences. Supervisors: Ben Kuipers, Risto Miikkulainen.
Reinforcement Learning in High-Diameter Continuous Environments, defended August 2007.

- Joseph Modayil, Computer Sciences. Supervisor: Ben Kuipers.
Robot Developmental Learning of an Object Ontology Grounded in Sensorimotor Experience, defended June 2007.
- Wallace Earl Depue, Jr. (Music), Supervisor: Andrew Dell’Antonio.
Central Park Reel for Violin and Piano, defended November 2006.
- Bobby Bryant, Computer Sciences, Supervisor: Risto Miikkulainen.
Evolving Visibly Intelligent Behavior For Embedded Game Agents, defended July 2006.
- Mikhail Bilenko, Computer Sciences, Supervisor: Raymond Mooney.
Learnable Similarity Functions and Their Applications, defended July 2006.
- Prem Melville, Computer Sciences, Supervisor: Raymond Mooney
Creating Diverse Ensemble Classifiers to Reduce Supervision, defended November 2005.
- Joohyung Lee, Computer Sciences, Supervisor: Vladimir Lifschitz.
Automated Reasoning about Actions, defended May 2005.
- Brett Mitchell, Music, Supervisors: Byron Almén, Kevin Noe.
Mahler and the Art of Self-borrowing, defended May 2005.
- Joon Woo Kim, Electrical and Computer Engineering (ECE), Supervisor: K. Suzanne Barber.
Trusting Information and Sources in Open Multi-Agent Systems, defended November 2003.
- David Han, ECE, current. Supervisor: K. Suzanne Barber.
- Nate Kohl, Computer Sciences, current. Supervisor: Risto Miikkulainen.
- Yuliya Lierler, Computer Sciences, current. Supervisor: Vladimir Lifschitz.
- Lilyana Mihalkova, Computer Sciences, current. Supervisor: Ray Mooney.
- Jonathan Mugan, Computer Sciences, current. Supervisor: Ben Kuipers.
- Aniket Murarka, Computer Sciences, current. Supervisor: Ben Kuipers.
- Yiu Fai Sit, Computer Sciences, current. Supervisor: Risto Miikkulainen.
- Vinod Valsalam, Computer Sciences, current. Supervisor: Risto Miikkulainen.
- Changhai Xu, Computer Sciences, current. Supervisor: Kristen Grauman.
- **Doctoral Committee Member:** (External)
 - Alessandro Lazaric, Elettronica e Informazione, Politecnico Di Milano. Supervisor: Andrea Bonarini. *Knowledge Transfer in Reinforcement Learning*. January 2008.
 - Min-Sub Kim, Computer Science and Engineering, University of New South Wales, Australia. Supervisor: Will Uther. *Reinforcement Learning by Incremental Patching*. January 2008.
 - Vittorio Ziparo, Ingegneria Informatica, University of Rome. Supervisor: Daniele Nardi. *Robot Teams for Multi-Objective Tasks*. November 2007.
 - Christian Quintero, Department of Electronics, Computer Science and Automatic Control, University of Girona. Supervisor: Josep Ll. de la Rosa. *Introspection on Control-grounded Capabilities. An Agent-inspired Approach for Control*. October 2007.
 - Robert Abbott, Computer Science, U. of New Mexico, current. Supervisor: Stephanie Forrest. *Automated Tactics Modeling: Techniques and Applications*. April 2007.
 - Jelle Kok, Computer Science, University of Amsterdam, Netherlands. Supervisor: Nikos Vlassis. *Coordination and Learning in Cooperative Multiagent Systems*. November 2006.
 - Michael Quinlan, University of Newcastle, Australia. Supervisor: Stephan Chalup. *Machine Learning on AIBO Robots*. June 2006.
 - Jeff Riley, RMIT, Australia. Supervisor: Victor Ciesielski. *Evolving Fuzzy Rules for Goal-Scoring Behaviour in a Robot Soccer Environment*. February 2006.
- **Masters Thesis Supervisor:** (The University of Texas at Austin)
 - Gurushyam Hariharan, ECE, Spring 2004.
News Mining Agent for Automated Stock Trading
 - Harish Subramanian, ECE, Summer 2004.
Evolutionary Algorithms in Optimization of Technical Rules for Automated Stock Trading
- **Masters Thesis Reader:** (The University of Texas at Austin)
 - Aravind Gowrisankar, Computer Sciences, Autumn 2008. Supervisor: Risto Miikkulainen.
Evolving Controllers for Simulated Car Racing Using Neuroevolution.
 - Travis Mercker, Aerospace Engineering, Spring 2008. Supervisor: Maruthi Akella.
Self-Organization and Navigation Algorithms for Deployable Decentralized Sensor Networks.
 - Karen Fullam, ECE, Autumn 2003. Supervisor: K. Suzanne Barber.

An Expressive Belief Revision Framework Based on Information Valuation.

- **Undergraduate Honors Thesis Supervisor** (The University of Texas at Austin)
 - Adam Setapen, Computer Sciences, Spring 2009.
Exploiting Human Motor Skills for Training Bipedal Robots.
 - Tarun Nimmagadda, Computer Sciences, Spring 2008.
Building an Autonomous Ground Traffic System.
 - Ryan Madigan, Computer Sciences, Spring 2007.
Control Module for an Autonomous Mobile Robot Operating in an Urban Environment.
 - Jan Ulrich, Computer Sciences, Spring 2006.
An Analysis of the 2005 TAC SCM Finals.
 - Irvin Hwang, Computer Sciences, Spring 2005.
Discovering Conditions for Intermediate Reinforcement with Causal Models.
 - Ellie Lin, Computer Sciences, Autumn 2003.
Creation of a Fine Controlled Action for a Robot.
- **Undergraduate Thesis Reader:** (The University of Texas at Austin)
 - Laurel Issen, Computer Sciences, Spring 2006. Supervisor: Bill Geisler.
Using Edge Statistics for Object Recognition
 - Clare Richardson, Computer Sciences, Autumn 2005. Supervisor: Ben Kuipers.
Rapid, High Precision Control in Tightly Constrained Environments.

OTHER ADVISING

- **Postdoctoral Fellows:** Tsz-Chiu Au (2008–present), Tobias Jung (2008–present), Michael Quinlan (2007–present), Ian Fasel (2007–2008), Yaxin Liu (2004–2007), Bikramjit Banerjee (2006).
- **Other Current UT Austin Ph.D. students:** Doran Chakraborty, Todd Hester, Shivaram Kalyanakrishnan, Brad Knox, Juhyun Lee.
- **Other UT Austin undergraduate research:** Bartley Gillan (2007), Mickey Ristroph (2007), Srinivas Ashok (2007), David Li (2007), David Reaves (2007), Thomas Nelson (2006–07), Augustine Mathew (2006–07), Ben Bradley (2004), Aashish Parekh (2004), Prashanth Govindarajan (2003), Bharat Kejriwal (2003), Justin Lallinger (2003), Ali Niaz (2003).
- **AT&T Labs – Research summer intern:** Paul Reitsma (2001).
- **CMU undergraduate research** (informal): Patrick Riley (1998–1999), Michael Bowling (1996).

PROFESSIONAL ACTIVITIES

- **Event coordination:**
 - **General co-chair**, Autonomous Agents and Multi-Agent Systems (AAMAS), May 2011.
 - **Tutorial co-chair**, AAI, July 2008.
 - **Program co-chair**, Autonomous Agents and Multi-Agent Systems (AAMAS), May 2006.
 - **Workshop co-chair**, AAI, July 2005.
 - **Chair**, RoboCup US Open simulation league committee, May 2005, April 2004.
 - **Co-chair**, ICML Workshop on *Physiological Data Mining Contest*, July 2004.
 - **Chair**, Information Science and Technology (ISAT) study on *Distributed Cognitive Systems Focused on Team/Multiagent Learning*, May 2005, June 2004.
 - **Tutorial chair**, IJCAI, August 2003.
 - **Co-chair**, IJCAI workshop on *Trading Agent Design and Analysis*, August 2003.
 - **Co-chair**, AAI Fall Symposium on *Personalized Agents*, November 2002.
 - **Co-chair**, AAI Spring Symposium on *Collaborative Learning Agents*, March 2002.
 - **Entry coordinator**, Trading Agent Competition, October 2001.
 - **Associate chair** in charge of simulation events for RoboCup-2001, August 2001.
 - **Co-chair**, Agents Workshop on *Learning Agents*, May 2001.
 - **Co-chair**, RoboCup Workshop, August 2000.
 - **Co-chair**, Agents Workshop on *Learning Agents*, May 2000.
 - **Co-chair**, RoboCup simulator competition organizing committee, August 1997 – August 1999.

- **Co-editor-in-chief**, *J. of Autonomous Agents and Multi-Agent Systems* (JAAMAS), 2010–2013.
- **Associate editor**:
 - *Artificial Intelligence Journal* (AIJ), January 2007 – December 2010.
 - *J. of Autonomous Agents and Multi-Agent Systems* (JAAMAS), April 2003 – December 2009
 - *ACM Transactions on Internet Technology* (TOIT), January 2003 – December 2005.
 - *International Journal of Image and Graphics* (IJIG), November 2002 – March 2006.
- **Assistant editor**:
 - *ACM SIGecom Exchanges*, January 2004 – December 2005.
- **Editorial board**:
 - Springer Verlag’s *Encyclopedia of Machine Learning*, October 2005 – present.
 - *Machine Learning Journal* (MLJ), May 2003 – December 2011.
 - *Journal of Artificial Intelligence Research* (JAIR), February 2002 – February 2005.
- **Organizing committee member**:
 - IJCAI Workshop on *General Game Playing*, July 2009.
 - 2nd *Reinforcement Learning Competition*, March 2008.
 - ICAPS Workshop on *AI Planning and Learning*, September 2007.
 - NIPS Workshop on *The Inaugural Reinforcement Learning Competition*, December 2006.
 - AAAI Workshop on *Multiagent Learning*, July 2005.
 - AAAI Fall Symposium on *Real Life Reinforcement Learning*, November 2004.
 - AAMAS Workshop on *Learning and Evolution in Agent Based Systems*, July 2004.
- **Advisory Committee**, International Joint Conference on Artificial Intelligence (IJCAI), July 2009.
- **Senior Steering Committee**, 2008 AAAI workshop on *Transfer Learning for Complex Tasks*.
- **Steering committee**:
 - Adaptive and Learning Agents Workshop (ALA), 2008–present.
 - 2007 Pacific Rim Trading Agent Competition.
 - IPTO Cognitive Systems Conference, 2005–2006.
- **Councilor**, American Association of Artificial Intelligence (AAAI), July 2005–2008.
- **Board of directors**, Association for Trading Agent Research, August 2003–present.
- **Guest editor**, ACM SIGecom Exchanges special issue on Trading Agent Design and Analysis, Winter 2004.
- **Consultant**, Information Science and Technology (ISAT) Summer Study on *Automated Intent Recognition on Distributed Organizations* (AIRDO), August 2003.
- **Co-editor**, IEEE Intelligent Systems special issue on “Agents and Markets,” November 2003.
- **Trustee**, RoboCup Federation, July 2003 – present.
- **Advisory board**, Springer-Verlag book on *Balancing Reactivity and Social Deliberation in MAS*, September 2000 – January 2001.
- **Advisor**, National Academy of Engineering DARPA Prize Authority Workshop, December 2000.
- **Executive committee member**, RoboCup Federation, August 1999 – present.
- **Book reviewer**:
 - John Wiley & Sons, 2007, 2006.
 - Morgan Kaufmann, 2001.
- **Journal article reviewer**:
 - *Adaptive Behavior*, 2006.
 - *Advanced Robotics Journal*, 1999.
 - *AI Communication* (AICOM), 2005.
 - *Artificial Intelligence* (AIJ), 2006, 2005, 2002.
 - *Autonomous Agents and Multi-Agent Systems* (JAAMAS), 2002 – 2007, 2000.
 - *Autonomous Robots*, 1999.
 - *Computational Intelligence*, 2003.
 - *Data Mining and Knowledge Discovery* (DMKD) 2007.
 - *Decision Support Systems* (DSS), 2007, 2006, 2004, 2003.
 - *Electronic Commerce* (EC)
 - *Electronic Markets* (EM), 2002.
 - *IEEE Internet Computing*, 2006.
 - *IEEE Transactions on Knowledge and Data Engineering* (IEEE TKDE), 2002, 1999.

- *IEEE Transactions on Robotics* (IEEE TRO), 2004 – 2007.
- *IEEE Transactions on Robotics and Automation* (IEEE TRA), 2002, 2001.
- *INFORMS Journal on Computing*, 2006.
- *Journal of Artificial Intelligence Research* (JAIR), 2000 – 2005.
- *Journal of Machine Learning Research* (JMLR), 2005, 2003.
- *Knowledge and Information Systems* (KAIS), 2002, 2000.
- *Knowledge Engineering Review*, 2003.
- *Machine Learning Journal* (MLJ), 2005–2009, 2003.
- *Neural Networks* (NN), 2008, 2007.
- *Robotics and Autonomous Systems* (RAS), 2007, 2003.
- *Systems, Man and Cybernetics* (SMC), 2005.
- **Area chair:**
 - International Joint Conference on Artificial Intelligence (IJCAI), July 2009.
 - European Conference on Machine Learning (ECML), October 2005.
 - International Conference on Machine Learning (ICML), August 2003.
- **Senior program committee member:**
 - Autonomous Agents and Multiagent Systems (AAMAS), May 2007, July 2004, July 2003.
 - International Joint Conference on Artificial Intelligence (IJCAI), January 2007.
 - International Conference on Machine Learning (ICML), June 2006.
 - National Conference on Artificial Intelligence (AAAI), July 2004, July 2002.
- **Conference program committee member:**
 - International Conference on Machine Learning (ICML), June 2008, June 2000.
 - Autonomous Agents and Multiagent Systems (AAMAS), May 2008
 - Int’l Conf. on Automated Planning and Scheduling. (ICAPS), September 2007, June 2003.
 - IEEE International Conference on Robotics and Automation (ICRA), May 2008, April 2005.
 - National Conference on Artificial Intelligence (AAAI), July 2007 (II Track), July 2000.
 - Robotics: Science and Systems (RSS), August 2006.
 - International Joint Conference on Artificial Intelligence (IJCAI), August 2005, 2003, 2001.
 - International Conference on Autonomic Computing (ICAC), June 2005, May 2004.
 - ACM Conference on Electronic Commerce (EC), May 2005.
 - Neural Information Processing Systems (NIPS), December 2003, December 2002.
 - European Conference on Machine Learning (ECML), Sept. 2003, August 2002, Sept. 2001.
 - Autonomous Intelligent Networks and Systems Conference (AINS), June 2003.
 - Distributed Autonomous Robotic Systems (DARS), June 2002, October 2000.
 - Intelligent Autonomous Systems (IAS), March 2002.
 - International Conference on Artificial Intelligence (IC-AI), June 2001
 - Autonomous Agents (AA), May 2001, May 2000.
 - National Conference on Artificial Intelligence (AAAI), July 2000.
 - International Conference on Multi-Agent Systems (ICMAS), July 2000.
 - International Conference on Enterprise Information Systems (ICEIS), July 2000.
- **Workshop/symposium program committee member:**
 - IJCAI AI video competition, July 2009.
 - AAAI workshop on *Trading Agent Design and Analysis* (TADA), July 2008.
 - ECAI workshop on *Cognitive Robotics*, July 2008.
 - AAMAS workshop on *Formal Models and Methods for Multi-Robot Systems*, May 2008.
 - ICAPS workshop on *AI Planning and Learning* (AIPL), September 2007.
 - ICAC workshop on *Adaptive Methods in Autonomic Computing* (AMACS), June 2007.
 - Second workshop on *Tackling Computer Systems Problems with Machine Learning Techniques* (SysML), January 2007.
 - ICML workshop on *Structural Knowledge Transfer for Machine Learning*, June 2006.
 - 3rd International IEEE Latin American Robotic Symposium (LARS), October 2006.
 - AAMAS workshop on *Agent Mediated Electronic Commerce* (AMEC/TADA), May 2006.
 - IJCAI workshop on *Planning and Learning in A Priori Unknown or Dynamic Domains*
 - IJCAI workshop on *Trading Agent Design and Analysis* (TADA), August 2005.
 - IJCAI workshop on *Agents in Real-Time and Dynamic Environments*, August 2005.

- AAMAS workshop on *Learning and Adaptation in MAS (LAMAS)*, July 2005.
- AAMAS workshop on *Teaching Multiagent Systems (TeachMAS)*, July 2005.
- AAMAS workshop on *Trading Agent Design and Analysis (TADA)*, July 2004.
- ICML workshop on *Predictive Representations of World State*, July 2004.
- RoboCup Symposium, July 2005, July 2004, July 2003, June 2002, August 2001.
- IJCAI Workshop on *Agents in Dynamic Real-Time Environments*, August 2003.
- AAMAS Workshop on *Resource, Role, and Task Allocation in MAS*, July 2003.
- Pacific Rim MultiAgent Workshop (PRIMA), August 2002, July 2001, August 2000.
- AAMAS Workshop on *Coalitions and Team Formation*, July 2002.
- AAMAS Workshop on *MAS Problem Spaces and Their Implications to Achieving Globally Coherent Behavior Coalitions and Team Formation*, July 2002.
- *Agents, Theories, Architectures, and Languages (ATAL)*, August 2001.
- Agents Workshop on *Infrastructure for Agents, Multi-Agent Systems, and Scalable Multi-Agent Systems*, May 2001.
- ECAI Workshop on *Balancing Reactivity and Social Deliberation in Multi-Agent Systems*, August 2000.
- ICMAS *Collective Robotics* Workshop, July 1998.
- IROS Workshop on *RoboCup*, November 1996.
- **Project reviewer:**
 - Science Foundation of Ireland (SFI) “Integrated Analysis of System of Systems,” 2009.
 - European Commission (EC) “Ubiquitous Networking Robotics in Urban Settings,” 2008, 2009.
 - UK EPSRC “Market-Based Control of Complex Computational Systems,” 2008.
- **Proposal reviewer:**
 - National Science Foundation (NSF), 2009, 2008, 2004, 2003, 2002, 1999.
 - US-Israel Binational Science Foundation (BSF), 2007, 2003, 2000.
 - Microsoft Scholarship, 2007.
 - French Agence Nationale de la Recherche (ANR), 2006.
 - City University of New York internal research award program, 2006.
 - Research Council of Norway, 2003.
 - Israel Science Foundation (ISF), 2004, 2002.
 - Alberta Circle of Research Excellence (iCORE), 2000.
- **Departmental and university service:**
 - Blunk Memorial Professorship award committee, 2009.
 - Turing Scholars committee, 2008.
 - Doctoral Admissions committee, 2007–2008.
 - Faculty Recruiting committee, 2006–2007.
 - Ad hoc committee on the new WLC policy, 2006.
 - Ad hoc Japan Prize committee, 2006.
 - Doctoral Admissions committee, 2005–2006.
 - Ad hoc GSC committee on diversity proposals, 2005.
 - Chair, Special Events committee, 2004–05.
 - Evaluation of Graduate Programs committee, 2004–05.
 - AI lab steering committee, 2004–present.
 - Faculty evaluation committee, 2003–04.
 - Best dissertation committee, 2003.

INVITED DISTINGUISHED LECTURES

- “Learning and Multiagent Reasoning for Autonomous Agents.”
Keynote talk at 4th IEEE Latin America Robotic Symposium (LARS) in Monterrey Mexico. November 2007.
- “Learning and Multiagent Reasoning for Autonomous Agents.”
UT Austin Visions of Computing Lecture in Austin, Texas. November 2007.
- “Learning and Multiagent Reasoning for Autonomous Agents.”
IJCAI Computers and Thought Award Lecture in Hyderabad, India. January 2007.

- “Robot Learning.”
National Academy of Sciences spring symposium in Washington, DC. April 2006.
- “Machine Learning on Physical Robots.”
Keynote talk at International Conference on Computing (CIC) in Mexico City. October 2004.
- “The Trading Agent Competition: Two Champion Adaptive Bidding Agents.”
Computer Games Conference in Edmonton, Alberta. July, 2002.

INVITED TALKS

- “Teaching Teammates in Ad Hoc Teams.”
Game theory seminar at **Hebrew University Center for Rationality** in Jerusalem, Israel. May 2009.
- “Teaching Teammates in Ad Hoc Teams.”
AAMAS 2009 workshop on Adaptive Learning Agents in Budapest, Hungary. May 2009.
- “Generalization in Reinforcement Learning.”
Hebrew University Machine Learning Club Talk in Jerusalem, Israel. April 2009. 4/23/09
- “Machine Learning on Physical Robots.”
Hebrew University CS Colloquium in Jerusalem, Israel. April 2009.
- “Generalization in Reinforcement Learning.”
Technion EE Guest Lecture in Haifa, Israel, March 2009.
- “Machine Learning on Physical Robots.”
Haifa Mini-Workshop on Machine Learning: Theory and Practice in Haifa, Israel. March 2009.
- “Learning and Multiagent Reasoning for Autonomous Agents.”
Ben Gurion University in Beér Sheva, Israel. February 2009.
- “Learning and Multiagent Reasoning for Autonomous Agents.”
IBM Haifa Research Lab in Haifa, Israel. December 2009.
- “Learning and Multiagent Reasoning for Autonomous Agents.”
The Israel Association for Artificial Intelligence Symposium in Ashkelon, Israel. November 2008.
- “Learning and Multiagent Reasoning for Autonomous Agents.”
International Workshop on Market-Based Control of Complex Computational Systems in Liverpool, UK. September 2008.
- “Learning and Multiagent Reasoning for Autonomous Agents.”
University of Alberta AI Seminar in Edmonton, Alberta. March 2007.
- “Learning and Multiagent Reasoning for Autonomous Agents.”
University of Southern Alabama in Mobile, Alabama. February 2007.
- “Embracing Mobility.”
DARPA kickoff meeting on Information Theory for Mobile Ad-Hoc Networks in Chicago, IL. November 2006.
- “Layered Learning on Physical Robots.”
University of Amsterdam in Amsterdam, The Netherlands. November 2006.
- “Robust Autonomous Color Learning on a Mobile Robot.”
Robotics Institute Seminar Series, **Carnegie Mellon University** in Pittsburgh, PA. October 2006.
- “Robust Autonomous Color Learning on a Mobile Robot.”
Center for Perceptual Systems Seminar Series, UT Austin. October 2006.
- “Machine Learning and Multiagent Systems: From robot soccer to autonomous traffic.”
Lockheed Martin Aeronautics, Fort Worth, TX. October 2006.
- “Machine Learning and Multiagent Systems: From robot soccer to autonomous traffic.”
IEEE MetroCon, Arlington, TX. October 2006.
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Interviewed and quoted regarding research several times on television, on radio, and in newspapers including the New York Times, Wall Street Journal, USA Today, Pittsburgh Post-Gazette, and Austin American Statesman. Appeared on PBS *Scientific American Frontiers* hosted by Alan Alda.

PERSONAL

Married, three children — born 1998, 2000, 2002.

Citizenship: U.S.

- Violin — performed with the CMU philharmonic in Carnegie Hall, NY.
- Soccer — played in a semi-professional league, tried out for Major League Soccer.
- Languages — English (native), French and Hebrew (conversational).