

# Gal A. Kaminka

Full Curriculum Vitae

Computer Science Department  
Bar Ilan University  
Ramat Gan 52900, Israel

+972 3 531 8866  
galk@cs.biu.ac.il  
<http://www.cs.biu.ac.il/~galk>

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## Research Interests

I am interested in the computational mechanisms that underly intelligent social behavior, whether artificial or natural. Such mechanisms include the ability to understand what others are doing and intend to do, and to generate appropriate cooperative, coordinated behavior. My research emphasizes both theory and experiments with robots to synthesize social intelligence in the lab, and in real-world applications.

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## Education

<b>Ph.D., Computer Science</b>	University of Southern California	1995–2000
Thesis: <i>Execution Monitoring in Multi-Agent Environments</i>		
Advisor: Professor Milind Tambe.		
Committee members: Profs. George Bekey, Victor Lesser, Daniel O’Leary, Jeff Rickel		
<b>B.A. (Cum Laude), Computer Science</b>	Open University of Israel	1991–1994

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## Professional Experience

<b>Professor</b>	Bar Ilan University	2012–present
I head the MAVERICK group at the Computer Science Department, I lead the Bar Ilan University Robotics Consortium, and I am also affiliated with the Gonda Brain Research Center.		
<b>Co-Founder &amp; CTO</b>	BladeRanger	2016–present
<b>Advisory board member</b>	Intuition Robotics	2015–present
<b>Advisory board member</b>	Reporty Homeland Security	2014–present
<b>Radcliffe Fellow</b>	Harvard University	2011–2012
On sabbatical at the Radcliffe Institute for Advanced Study, Harvard.		
<b>Associate Professor</b>	Bar Ilan University	2008–2012
<b>Senior Lecturer</b>	Bar Ilan University	2002–2008
<b>Adjunct Assistant Professor</b>	Carnegie Mellon University	2002–2005
<b>Post Doctorate Fellow</b>	Carnegie Mellon University	2000–2002
Under guidance of Prof. Manuela Veloso. Investigated learning models of multi-agent behavior from observations, plan recognition, and multi-robot systems architectures. Participated in RoboCup 2001.		
<b>PhD. Candidate &amp; Research Assistant</b>	University of Southern California	1995–2000
Developed systems and theory for monitoring multiple agents in centralized and distributed settings, online and offline. Participated in AAAI and RoboCup competitions 1996–1998.		
<b>Programmer</b>	Tovna Machine Translation Systems, Ltd.	1993–1995
<b>Military Service</b>	Israel Defense Forces	1990–1993
Non-Commissioned Officer, rank: Sergeant First-Class		
<b>Assistant System Administrator</b>	Brandeis University Computer Science Department	1989.
<b>Programmer</b>	Shaham Computerized Educational Services	1986–1987
Converted the SEMEL tutoring system from Commodore computers to Apple II computers.		

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<b>Honors</b> <i>Sciences Prizes &amp; Distinctions</i>	<b>EurAI Fellow</b> 2017
	The European Organization for Artificial Intelligence (EurAI) <i>Fellows</i> programme recognises European AI researchers who have made exceptional contributions to the field. The EurAI Fellows Program honors only a very small percentage of the total membership of all member societies (up to a maximum of 3%).
	<b>Landau Prize in Research and Science</b> 2013
	This is a prestigious national prize, awarded annually to 5 scientists, for internationally-recognized contributions and excellence. Award category: Exact Sciences—Robotics.
	<b>Radcliffe Fellow</b> 2012
	Radcliffe Institute for Advanced Study, Harvard University.
<i>Best Paper Distinctions (1st-tier conferences)</i>	<b>IBM Faculty Award</b> 2004
	For research excellence in the area of model-based diagnosis of multi-agent systems.
	<b>First Place, International RoboCup Coach League</b> 2001
	<b>Third place, International RoboCup soccer simulation league</b> 1997
	<b>Second place, AAAI-1996 International Robot Competition</b> 1996
	<b>Best Challenge Paper Award, AAMAS Conference</b> 2013
The challenge paper titled “Curing Robot Autism: A Challenge” was awarded the best challenge paper award, in the AAMAS “Challenges and Visions” special track. Invited for presentation as part of the AAAI conference “Other Conference Highlights” session for award-winning papers.	
<i>Best Paper Distinctions (2nd-tier conferences)</i>	<b>Best of ICCM-2009</b> 2009
	Co-authored by Natalie Fridman, our paper in the International Conference on Cognitive Modeling (ICCM) was invited for publication in the <i>best of ICCM 2009</i> special issue of the journal Cognitive Systems Research.
	<b>Best of ICMAS-2000</b> 2000
	Co-authored by Milind Tambe, David V. Pynadath, Nicholas Chauvat, and Abhimanyu Das, our paper in the International Conference on Multi-Agent Systems (ICMAS) was invited for publication in the <i>best of ICMAS 2000</i> special issue of the journal Autonomous Agents and Multi-Agent Systems.
	<b>Best of Agents-1999</b> 1999
	Co-authored by Stacy C. Marsella, Jafar Adibi, Yaser Al-Onaizan, Ion Muslea, Marcello Tallis, and Milind Tambe, our paper titled “On being a teammate: Experiences acquired in the design of RoboCup teams” in the International Conference on Autonomous Agents was invited for publication in the <i>best of Agents 1999</i> special issue of the journal Autonomous Agents and Multi-Agent Systems.
<i>Service and Institutional Recognition</i>	<b>Best Paper Award, IMMM Conference</b> 2013
	Co-authored with Ariella Richardson and Sarit Kraus, our paper “REEF: Resolving Length Bias in Frequent Sequence Mining” won the best paper award at the third international conference on advances in information mining and management (IMMM 2013).
	<b>Best Paper Award, Cooperative Information Agents (CIA)</b> 2007
Co-authored with Avi Rosenfeld, Claudia V. Goldman, and Sarit Kraus, our paper in the CIA conference won the best paper award.	
<b>Rector’s Innovative Science Award</b> Bar Ilan University 2017	
With Dr. Noa Agmon, selected for our joint work on programming molecular robots.	
<b>Nominated for Best Senior Program Committee Member, AAMAS Conference</b> 2006, 2012	
For “reviews, discussions, and feedback that stood out as being particularly helpful, both to the authors, and to program chairs”.	

**Meritorious Service Award** University of Southern California 1997  
Presented for outstanding contributions to the success of the USC's Information Sciences Institute (USC/ISI) robots in international competitions.

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**Funding** Overall annual average: 12 PhD students fully funded, per year.

*Basic Science* **PI, Plan Recognition by Mirroring** Israel Science Foundation (ISF) 2016–2020  
Investigating a novel approach to plan, activity, and intent recognition (PAIR), inspired by the primate mirroring neuron system.

**PI, An exploration of plan recognition in cybersecurity** BIU Cybersecurity Center 2016–present  
Preliminary identification of the potential for plan recognition in cybersecurity applications.

**PI, Game-Theory, Reinforcement Learning, and Emergent Behavior in Robots and Agents** Israel Science Foundation (ISF) 2012–2016  
Investigating the game-theoretic properties (including rationality) of multi-robot swarm behaviors.

**PI, A Spectrum of Social Models in Theory and Robots** Israel Science Foundation (ISF) 2007–2012  
Secondary PI: Prof. Sarit Kraus (Bar Ilan University). Development of advanced logic theory and practical algorithms for controlling cooperative groups of autonomous robots, beyond teams.

**Co-PI, "Mind reading" of the visual content from population responses in the visual cortex of behaving monkeys** Center for Complexity Science 2007–2008  
Co-PI: Dr. Hamutal Slovin (Bar Ilan University). Development and application of machine learning techniques for decoding neuron population responses in the visual cortex.

**Co-PI, National Infrastructure Program in Robotics** Ministry of Science and Technology 2005–2007  
Co-PIs: Profs. Ehud Rivlin, Alfred Bruckstein (Technion); Sarit Kraus (Bar Ilan University); Eyal Shimony, Ariel Felner (Ben Gurion University). Development of canonical tasks and solutions for multi-robot systems, of multiple scales.

**PI, Teamwork in Theory and Robots** Israel Science Foundation (ISF) 2004–2007  
Secondary PI: Prof. Sarit Kraus (Bar Ilan University). Development of logic theory and practical algorithms for controlling teams of autonomous robots.

**Co-PI, Principled Design and Control of Robot Teams** Binational Science Foundation (BSF) 2004–2007  
Co-PIs: Prof. Manuela Veloso, Dr. Brett Browning (Carnegie Mellon University). Development of tools for design and deployment of coordinated robot teams.

**Co-PI, GameBots** USC/Information Sciences Institute 2000  
Co-PI: Sheila Tejada (University of Southern California/Information Sciences Institute). High-risk/high-visibility funding for developing infrastructure for research using PC game environments. This was the only funded proposal by graduate students.

*Applied* **PI, ROBIL2: A robotics consortium** MAFAT 2013–present  
Multi-organization consortium to build and evaluate generic robotics technologies in ROS. Our areas: decision-making and shared world modeling in multi-robot teamwork. Other partner organizations include Ben Gurion University, Technion, Cogniteam, IAI.

**Co-PI, ROBIL: Israel's entry to the DARPA Robotics Challenge** MAFAT, DARPA 2012  
Lead PI: Prof. Hugo Guterman, Ben Gurion University (BGU). Multi-organization consortium to build a team to compete in the DARPA Robotics Challenge (in addition to Bar Ilan University: Ben Gurion University, Technion, Cogniteam, IAI). My areas: decision-making and complex behaviors.

**PI, Improving Walking in Legged Robots** MAFAT 2009, 2011  
Using machine learning and other techniques to improve stability and speed of quadruple walking robots.

	<b>PI, Groups of Autonomous Marine Surface Vehicles</b>	MAFAT	2010–2012
	Support and advise a MAFAT-funded project at University of Texas, building autonomy control modules for marine surface vehicles.		
	<b>PI, Modeling Crowd Behavior</b>	MAFAT	2005–2012
	Using cognitive architectures and other AI tools to model crowd behavior.		
	<b>PI, Diagnosis and Decision-Support for UAVs</b>	MAFAT	2007–2010
	Development of a multivariate monitoring system for detecting and diagnosing failures.		
	<b>PI, Cooperation in Robotic Ground Platform</b>	MAFAT	2005–2009
	Algorithms and control systems for teams of physical robots in security tasks.		
	<b>PI, Social Comparison in Crowds</b>	U.S. Air Force Office of Scientific Research	2009,2011
	Investigation of social comparison mechanisms in crowds.		
	<b>PI, RoboSweep</b>	MAFAT	2004–2005
	Robotic teams for efficient and robust area coverage.		
	<b>Co-PI, Recognizing Anomalous Behavior</b>	Ministry of Commerce	2004–2007
	Co-PI: Prof. Sarit Kraus (Bar Ilan University). Development of algorithms for recognizing anomalous and suspicious behavior based on evidence from observations. MAGNET program.		
<i>Industry and Tech-Transfer</i>	<b>PI, Crowd behavior in homeland security simulation</b>	Ministry of Commerce	2015–2017
	Research and technology transfer of crowd behavior modeling algorithms, applied to homeland security and disaster response simulations, for training and decision-support. MEIMAD program. Commercial partner: El-Tel, Ltd.		
	<b>Co-PI, AIDL</b>	Boeing Research and Technology Europe	2014
	Enabling higher levels of autonomy. Main PI: Dr. Noa Agmon, Bar Ilan University.		
	<b>PI, PointBots</b>	MAFAT	2010–2013
	Multirobot semi-autonomous exploration and mapping. A technology transfer and accelerated research and development program. Commercial partner: Cogniteam, Ltd.		
	<b>PI, Autonomous robot mapping</b>	RAFAEL	2009
	Demonstration of autonomous mapping capabilities by robots.		
	<b>PI, Multi-Robot Formations with a Single Operator</b>	Ministry of Commerce	2007–2009
	MAGNETON program. Commercial partner: Elbit Systems, Ltd.		
	<b>PI, Research in multi-agent systems</b>	Samsung Telecommunications Research, Israel	2006–2007
	<b>PI, Teamwork in Computer Generated Forces</b>	Elbit Systems, Ltd.	2005–2006
	Using the Soar architecture to model CGF teams.		

## Patents

	<b>Robotic Cooperative Systems</b>	Pending, 2016
	Gal A. Kaminka, Assaf Friedler, Ari Yakir, Dan Erusolimchik, Yehuda Elmaliach. International application #PCT/IL2016/051163. US provisional filed 2015.	
	<b>Location-Based Image Retrieval</b>	Pending, 2014
	Shahar Kostı, Gal A. Kaminka, and David Sarne. International application #PCT/IL2014/050042. US Provisional filed 2013.	
	<b>Anomaly Detection Methods, Devices and Systems</b>	<b>Granted</b> , 2012
	Eliyahu Khalastchi, Gal A. Kaminka, Raz Lin, and Meir Kalech. US Patent 20140149806A1.	
	<b>Flexible Computer Vision</b>	<b>Granted</b> , 2011
	Gal A. Kaminka and Eran Sadeh-Or. US Patent 8,965,130.	
	<b>Voting by Peers with Limited Resources</b>	<b>Granted</b> , 2007
	Meir Kalech, Sarit Karus, Gal A. Kaminka, and Claudia V. Goldman-Shenhar. US Patent 8,038,061.	

**A Method and a System for Matching between Network Nodes** **Granted, 2007**  
Victor Shufrun, Gal A. Kaminka, Sarit Kraus, and Claudia V. Goldman-Shenhar. US Patent 7,808,909.

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**Invited Talks  
and Panels**  
*Professional*

- Teams, Swarms, Crowds and Collectives: Special Cases?** 2016  
Invited keynote talk at the AAI workshop on multiagent interaction without prior coordination.
- No Robot is an Island, No Team an Archipelago** 2015, 2016  
Tel Aviv University, Ben Gurion University ABC Robotics Initiative. Invited keynote talk at the 2016 Robotics Systems and Science (RSS) workshop on online decision making for multiple robots.
- No Robot is an Island: Translational Psychomimetic Research** 2015  
An invited talk at the BrainTech 2015 Conference, Israel.
- Doctoral Mentoring Panel** 2015  
A panel at the AAMAS conference doctoral consortium and mentoring program, on career management and PhD advice.
- The Aleph-Bet of Robotics** 2014  
An invited talk at an invitation-only workshop on commercialization, investment, and business in the area of Internet-of-Things. Organized by VC firm Aleph.
- Curing Robot Autism: A Challenge to the Community** 2014  
An invited talk at workshop on Interactive Intelligence, Lorentz Center, the Netherlands.
- Forward the architecture: Integrated AI through robotics** 2013  
Invited talk at BISFAI 2013 (Israel).
- Curing Robot Autism: A Challenge** 2013  
An invited presentation (short version) of the above-titled award-winning paper, at the AAI conference special session highlighting research from other conferences.
- Reusable Teamwork in Multi-Robot Teams** 2012, 2013  
Carnegie Mellon University, University of Texas at Austin, University of Massachusetts at Amherst, Massachusetts Institute of Technology, Georgia Institute of Technology, Harvard University, University of Massachusetts at Lowell, Ninth International Workshop on Foundations on Mobile Computing.
- Modeling Crowds: Psycho-history Reinvented** 2012  
An invited talk at the Crowds 2012 workshop.
- Modeling Human Crowds and Robot Swarms: Two Different Approaches** 2012  
University of Southern California.
- This is Not a Game: Old and New Challenges in Adversarial Reasoning** 2011  
Invited talk at the AARM (Applied Adversarial Reasoning and Modeling) workshop, at AAI.
- Use-Inspired Research in Robotics** 2011  
Invited talk at the CARE (Collaborative Agents—Research and Development) workshop, University of Southern California workshop on Use-Inspired Research.
- Unsupervised Data-Mining and Anomaly Detection** 2011  
Invited talk at the ADMI (Agents and Data Mining Interaction) workshop.
- Teamwork in Robots: Applying Lessons from Humans** 2011  
Invited talk at the annual Taiwan AI Forum (Taipei).
- Towards Rapid Prototyping of Socio-Cognitive Simulations** 2011  
An invited talk at the 711 Human Performance Wing, Wright-Patterson Air Force Base.
- Challenges in Robot and Human-Robot Teamwork** 2010  
A keynote presentation for *HART* (Human-Agent-Robot Teamwork) 5-day focused workshop.

- A Cognitive Modeling Approach to Crowd Simulations** 2009–2010  
An invited talk at University of Southern California’s TEAMCORE group, at the 711 Human Performance Wing, Wright-Patterson Air Force Base, at Singapore Management University (School of Information Sciences).
- RoboCup and Lessons for Science Competitions** 2007, 2009  
An invited talk at the AAAI 2007 Workshop on Evaluation of Architectures, and the AAMAS 2009 Workshop on Agent Design: Adapting from Practice to Theory (ADAPT).
- Distributed Multi-Agent Robotics** 2008  
An invited talk at the 2008 IEEE International Conference on Distributed Human-Machine Systems.
- Robots are Agents, Too!** 2007  
An invited talk at the International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS). Also given at Hebrew University of Jerusalem.
- 10 Years of Situated Teamwork** 2006–2007  
University of Trento and ITC-irst, University of Southern California, Ben Gurion University of the Negev National Seminar in AI, EPFL Switzerland Summer Research Institute.
- Single Operator, Multiple Robots: The Case of Coordinated Robots** 2004–2005  
University of Southern California Computer Science Department, NASA/JPL, Natanya College, University of Pittsburgh HCI group.
- Teamwork in Autonomous Systems** 2003  
El-Op, Ltd. industry day, MAFAT robotics day.
- GameBots: A Research Testbed** 2002  
University of Pittsburgh HCI group.
- Monitoring Teams by Overhearing** 2002  
University of Massachusetts—Amherst computer science department, Carnegie Mellon University RETSINA group, Interdisciplinary Center in Hertzelia (Israel), Bar Ilan University computer science department.
- Teamwork and Coordination panel member** 2001  
A simulation league panel at the International RoboCup 2001 event.
- Teamwork and Coordination panel member** 2001  
First NASA workshop on Radical Agent Concepts.
- Multi-Agent Modeling** 2001  
Ben Gurion University, Hebrew University of Jerusalem, Tel-Aviv University, Technion: Israel Institute of Technology.
- If I’m OK, and You’re OK, are We OK?** 1999  
Carnegie Mellon University CORAL Group, Ben-Gurion University, Hebrew University of Jerusalem.
- Teamwork and Learning in the ISIS RoboCup Team** 1998  
Japan Elctro-Technical Laboratory (ETL)—now AIST.
- Popular Science* **Programmable Nano-robots for Medical Applications** 2016  
A popular-science talk discussing recent advances in nanobots, and how they might be programmed. Bar Ilan University “Science Night”, September.
- We, Robots** 2013  
An invited popular-science talk contrasting science fiction literature and culture views of robots, with the commercial and scientific reality; a discussion of Asimov’s three laws of robotics and their significance. Presented at the Israeli conference on science fiction and fantasy (ICON).
- The Robots are Here!** 2013  
A popular-science talk on the current and future prospects of robotics. Part of “Mada La’am” series organized by Israel’s Ministry of Science and Technology.

<b>Pets, Slaves, or Companions: Robots in Human Society</b>	2012
A panel, part of a mini-symposium on <i>Robots in Human Society</i> . Moderated by Dr. Guy Hoffman. Other panelists include Prof. Ken Goldberg, Dr. Roey Tzezana.	
<b>The Present and Future of Robotics</b>	2012
An invited popular science talk at the ICON TLV international sci-fi and fantasy festival (Hebrew). Available at <a href="http://www.youtube.com/watch?v=0QQHc-B-btM">http://www.youtube.com/watch?v=0QQHc-B-btM</a>	
<b>Panel on the Technological Singularity: Fashionable Hysteria or a Certain Future?</b>	2012
Moderated by Yael Dan, the other panel members included Dr. Immanuel Lotem, and Yanki Margalit.	
<b>No robot is an island: On the role of multi-robot technology in commercial robotics</b>	An invited talk at the World Innovation Summit 2009.
<b>Multi-Robot Systems</b>	2006–2009
An annual talk at the <i>Computer Science, Academy, and Industry</i> educational program for exceptional high-school students at Weizmann Institute of Science.	
<b>Robotics: Present and Future</b>	2005
Bar Ilan Science Day keynote speech.	
<b>Robotics: Technological and Educational Challenge for Israel</b>	2004
Haifa University robotics competition, keynote address.	

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<i>Service Professional Societies</i>	<b>Board Member</b>	International Foundation for Autonomous Agents and Multi-Agent Systems (IFAAMAS)	2008–2014
	<b>Member, Executive Committee</b>	RoboCup Federation	2010–2013
	<b>Member, Executive Council</b>	Association for Advancement of Artificial Intelligence (AAAI)	2008–2011
<i>Journal Editing</i>	<b>Associate Editor</b>	Communications of the ACM (Robotics)	2014–Present
	<b>Coordinating Editor</b>	Journal of Autonomous Agents and Multi-Agent Systems	2007–Present
	<b>Associate Editor</b>	Journal of Artificial Intelligence Research (JAIR)	2013–2016
	<b>Associate Editor (Robotics)</b>	Annals of Mathematics and Artificial Intelligence (AMAI)	2008–2013
	<b>International Scientific Committee</b>	Journal of Physical Agents (JOPHA)	2010–2014
	<b>Guest Editor</b>	Annals of Mathematics and Artificial Intelligence: Special Issue BISFAI 2007. Co-edited with Sarit Kraus.	2009
	<b>Guest Editor</b>	Annals of Mathematics and Artificial Intelligence: Special Issue Multi-Robot Coverage, Search, and Exploration. Co-edited with Amir Shapiro.	2008
	<b>Guest Editor</b>	Annals of Mathematics and Artificial Intelligence: Special Issue Multi-Robot Coverage, Search, and Exploration. Co-edited with Amir Shapiro.	2008
<i>Conference Organization</i>	<b>Co-Chair, AAMAS Workshop Program</b>		2018
	<b>Co-Chair, ICAPS Doctoral Mentoring Program</b>		2018
	<b>Program Co-Chair, ECAI</b>		2016
	<b>Co-Chair, MATES (German Conference on Multiagent System Technologies)</b>		2015
	<b>Robotics Track Co-Chair, AAMAS</b>		2015
	<b>Integrated Systems Track Co-Chair, AAAI</b>		2015
	<b>Program Co-Chair, AAMAS</b>		2010
	<b>Chair, AAMAS Workshop Program</b>		2009
	<b>Co-Chair, AAMAS Doctoral Mentoring Program and Symposium</b>		2008
	<b>Program Co-Chair, BISFAI</b>		2007
	<b>Chair, AAMAS Doctoral Mentoring Program and Symposium</b>		2004
	<b>Co-Chair, RoboCup Symposium</b>		2002
	<b>Chair, RoboCup Soccer Simulation World Cup</b>		2001
	<b>Chair, RoboCup Soccer Simulation Evaluation Sessions</b>		1998–2001
	<b>Member, RoboCup Soccer Simulation Technical Committee</b>		1998–2002

<i>Workshop Organization</i>	<b>Founder &amp; Co-Chair, ARMS (Autonomous Robots and Multirobot Systems) Workshop</b>	2011–
	<b>Co-Chair, AAAI Workshop on Evaluating Architectures for Intelligence</b>	2007
	<b>Program Co-Chair, EUMAS Workshop</b>	2005
	<b>Founder &amp; Chair/Co-Chair, MOO (Modeling Others from Observations) Workshop</b>	2004–2006
<i>Program Committee</i>	Served as <b>program committee member (PC)</b> , <b>senior program committee member (SPC)</b> , <b>area chair</b> , and <b>reviewer</b> for various conferences: AAAI, AAMAS, IJCAI, ICRA, IROS, and others. 1999–present.	
<i>External Ph.D. Examiner</i>	<b>Joana Dimas Couto Silva</b> Universidade de Lisboa, Instituto Superior Técnico	2016
	When “I” becomes “We”: Creating Agents with Dynamic Identity.	
	<b>Matthew Johnson</b> Delft University of Technology, Netherlands	2014
	Coactive Design: Designing Support for Interdependence in Human-Robot Teamwork.	
	<b>Aris Valtazanios</b> University of Edinburgh, UK	2013
	Decision Shaping and Strategy Learning in Multi-Robot Interactions.	
	<b>Boštjan Kaluža</b> Jožef Stefan International Postgraduate School, Slovenia	2013
	Detection of Anomalous and Suspicious Patterns from Spatio-Temporal Agent Traces.	
	<b>Nicola Basilico</b> Politecnico di Milano, Italy	2010
	Navigation Strategies for Exploration and Patrolling with Autonomous Mobile Robots.	
	<b>Lavindra de Silva</b> RMIT University, Australia	2009
	Planning in BDI Agent Systems.	
	<b>David Poutakidis</b> RMIT University, Australia	2008
	Debugging Multi-Agent Systems with Design Documents.	
	<b>Nikolaus Correll</b> École Polytechnique Fédérale de Lausanne (EPFL), Switzerland	2007
	Coordination Schemes for Distributed Boundary Coverage with a Swarm of Miniature Robots: Analyses and Experimental Validation.	
	<b>Eric Platon</b> Laboratoire d’informatique de Paris 6, Université Pierre et Marie Curie	2007
	Modeling Exception Management in Multi-Agent Systems.	
	<b>Silvia Rossi</b> University of Trento, Italy	2006
	Communication and Overhearing for Modelling and Monitoring Group Interactions	

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**Teaching**  
*University Courses* I have been teaching academic courses in computer science, at the undergraduate and graduate levels. Repeating titles include *Introduction to Multi-Robot Systems*, *Introduction to Intelligent Systems*, *Computer Structure and Organization*, *Algorithms and Data Structures*, *Agents in Physical Systems*, and *Empirical Methods in Computer Science*.

*Tutorials* I have given a number of tutorials at international summer schools and conferences, on *Agent Modeling from Observations*, *Robot Teamwork*, and other topics.

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**Students** Graduated Total 12 PhDs, 25 MSc.

*Current Ph.D.* **Roi Yehoshua** Ph.D. student  
 Adversarial Robot Coverage. Co-advised by Noa Agmon, Bar Ilan University.

*Current M.Sc.* **Mika Barkan** M.Sc. student  
 Undecided topic in multi-robot systems.

**Rivka Vizen** M.Sc. student (Hebrew University)  
 Human identification of candidate spatial goals. Co-advised by Jeff Rosenschein, Hebrew University of Jerusalem.



	<b>Ella Checnoverov</b>	M.Sc. student
	Undecided topic in molecular robotics (nanobotics).	
	<b>Niv Rafaeli</b>	M.Sc. student
	Integrating active perception into a decision-making architecture.	
	<b>Yinon Douchan</b>	M.Sc. student (Mech. Eng., Tel Aviv University)
	Reinforcement learning in robot swarms. Co-advised by Avraham Seifert, Tel Aviv University.	
<i>Alumni Ph.D.</i>	<b>Mor Vered</b>	Ph.D. 2018
	Mirroring: A General Approach to Plan and Goal Recognition. <i>Now a post-doc at University of Melbourne, Australia.</i>	
	<b>Sharon Yalov-Handzel</b>	Ph.D. 2016
	Stable Humanoid Whole Body Motion Generation. <i>Now faculty at Afeka Tel-Aviv College of Engineering.</i>	
	<b>Natalie Fridman</b>	Ph.D. 2013
	Modeling Crowd Behavior. <i>Now V.P. of Research and Innovation at ImageSat International.</i>	
	<b>Elisheva Bonchek-Dokow</b>	Ph.D. 2012
	Cognitive Modeling of Human Intention Recognition. <i>Now faculty at Ashkelon College.</i>	
	<b>Ariella Richardson</b>	Ph.D. 2011
	Mining and Classification of Multivariate Sequential Data. Co-advised by Sarit Kraus, Bar Ilan University. <i>Now faculty at Jerusalem College of Technology.</i>	
	<b>Noa Agmon</b>	Ph.D. 2009
	Models and Algorithmic Approaches for Cooperative Multi-Robot Systems. Co-advised by Sarit Kraus, Bar Ilan University. Dissertation was recognized specifically as a runner-up to the <i>IFAAMAS Victor Lesser Best Dissertation Award</i> . <i>Now faculty at Bar Ilan University, Israel.</i>	
	<b>Yehuda Elmaliach</b>	Ph.D. 2009
	Multi-Robot Frequency-Based Patrolling. <i>Now Dean of the School of Computer Science at the College of Management Academic Studies, and founder of Cogniteam, Ltd.</i>	
	<b>Dorit Avrahami-Zilberbrand</b>	Ph.D. 2009
	Efficient Hybrid Algorithms for Plan Recognition and Detection of Suspicious and Anomalous Behavior.	
	<b>Avi Rosenfeld</b>	Ph.D. 2007
	Adaptive coordination for multi-robot and multi-agent teams. Co-advised by Sarit Kraus, Bar Ilan University. <i>Now faculty at Jerusalem College of Technology.</i>	
	<b>Yael Termin</b>	Ph.D. 2007
	Perception of a 3D Colored Image from One Colored and One Gray-Scale Images. Co-advised by Ari Zivotofsky, Bar Ilan University.	
	<b>Meir Kalech</b>	Ph.D. 2007
	Diagnosing Coordination Faults in Multi-Agent Systems. <i>Now faculty at Ben Gurion University, Israel.</i>	
	<b>Gery Gutnik</b>	Ph.D. 2006
	Monitoring large-scale multi-agent systems using overhearing.	
<i>Alumni M.Sc. (thesis)</i>	<b>Inbal Wiesel-Kapah</b>	M.Sc. 2016
	Rule-based programming of molecular nano-robots. Co-advised by Ido Bachelet and Noa Agmon at Bar Ilan University.	
	<b>Ilan Lupu</b>	M.Sc. 2015
	Optimal Construction of Control Graphs in Multi-Robot Systems. Co-advised by Noa Agmon, Bar Ilan University.	
	<b>Shahar Kosti</b>	M.Sc. 2013
	Single Operator Control of Multiple Robots in Exploration. Co-advised by David Sarne, Bar Ilan University.	

<b>Limor Marciano (Bagizada)</b> CPNP: Colored Petri-Net Plans for Single and Multiple Robots.	M.Sc. 2013
<b>Matan Kedar</b> Fast Frontier Detector for Robot Exploration.	M.Sc. 2012
<b>Meytal Traub</b> Topics in Multi-Robot Teamwork.	M.Sc. 2011
<b>Eliyahu Khalastchi</b> Anomaly detection and diagnosis in robots and unmanned vehicles. Co-advised by Meir Kalech, and by Raz Lin	M.Sc. 2010
<b>Asaf Shiloni</b> Robot <i>Ants</i> and <i>Elephants</i> : Computational multi-robot systems. Co-advised by Noa Agmon and Ariel Felner.	M.Sc. 2010
<b>Igor Vainer</b> Obtaining Scalable and Accurate Classification in Large Scale Spatiotemporal Domains. Co-advised by Sarit Kraus, Bar Ilan University.	M.Sc. 2009
<b>Dan Erusalimchik</b> Adaptive multi-robot coordination based on resource spending velocity.	M.Sc. 2009
<b>Victor Shafran</b> Multilateral distributed matchmaking, and hybrid multi-robot coverage. Co-advised by Sarit Kraus, Bar Ilan University.	M.Sc. 2008
<b>Niron Cohen-Nov-Slapak</b> On Integrated Multi-Agent Intention Recognition Systems.	M.Sc. 2008
<b>Ari Yakir</b> Soaring Higher: Advanced Teamwork and Development Environment for Computer-Generated Forces.	M.Sc. 2007
<b>Gilad Armon-Kest</b> Supporting Collaborative Activity. Co-advised by Sarit Kraus, Bar Ilan University.	M.Sc. 2007
<b>Natalie Fridman</b> Modeling Crowd Behavior Based On Social Comparison Theory.	M.Sc. 2007
<b>Ido Ikar</b> Area Coverage by a Multi-Robot System.	M.Sc. 2007
<b>Einat Marhasev</b> (Haifa University, Computer Science) Recognition of Duration-Based Behavioral Patterns with Hidden Semi Markov Models. Co-advised by Meirav Hadad.	M.Sc. 2007
<b>Edi Shmukler</b> Anytime Fuzzy Control.	M.Sc. 2006
<b>Eran Shoham</b> (Technion, Industrial Engineering) Multi-Agent Coalition Reformation and League Ranking. Co-advised by Onn Shehory, IBM Research and the Technion.	M.Sc. 2006
<b>Inna Frenkel</b> Flexible Teamwork in Behavior-Based Robots	M.Sc. 2005
<b>Danny Shimony</b> A tool for multi-user, multi-application modeling.	M.Sc. 2005
<b>Noam Hazon</b> Robust and efficient multi-robot coverage.	M.Sc. 2005
<b>Ruti Glick</b> Robust multi-robot formations.	M.Sc. 2005
<b>Yehuda Elmaliach</b> Single operator control of tightly-coordinated multi-robot teams.	M.Sc. 2004

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## Publications

### Books, Edited Books, Proceedings, and Dissertation

- [1] Gal A. Kaminka. *No Robot is an Island: Cooperative Multi-Robot Teams (tentative title)*. Cambridge University Press, Under contract. Forthcoming.
- [2] Gal A. Kaminka, Maria Fox, Paolo Bouquet, Eyke Hüllermeier, Virginia Dignum, Frank Dignum, and Frank van Harmelen, editors. *22nd European Conference on Artificial Intelligence (ECAI 2016)*, volume 285 of *Frontiers in Artificial Intelligence and Applications*. IOS Press, 2016.
- [3] Jörg P. Müller, Wolf Ketter, Gal Kaminka, Gerd Wagner, and Nils Bulling, editors. *Multiagent System Technologies: 13th German Conference (MATES 2015), Cottbus, Germany, September 28 - 30, 2015, Revised Selected Papers*. Number 9433 in *Lecture Notes in Artificial Intelligence*. Springer, 2015.
- [4] Wiebe van der Hoek, Gal A. Kaminka, Yves Lespérance, Michael Luck, and Sandip Sen, editors. *AAMAS 2010: Proceedings of the Ninth International Conference on Autonomous Agents and Multi-Agent Systems*. IFAAMAS: International Foundation for Autonomous Agents and Multiagent Systems, Toronto, Canada, May 2010.
- [5] Marie Pierre Gleizes, Gal A. Kaminka, Ann Nowé, Sascha Ossowski, Karl Tuyls, and Katja Verbeeck, editors. *EU-MAS 2005: Proceedings of the Third European Workshop on Multi-Agent Systems*. Koninklijke Vlaamse Academie van Belie voor Wetenschappen en Kunsten, Brussels, Belgium, 2005.
- [6] Gal A. Kaminka, Pedro U. Lima, and Raul Rojas, editors. *RoboCup 2002: Robot Soccer World Cup VI*. Number 2752 in *Lecture Notes in Artificial Intelligence*. Springer, 2003.
- [7] Gal A. Kaminka. *Execution Monitoring in Multi-Agent Environments*. PhD thesis, Computer Science Department—University of Southern California, 2000.

### Journal Publications

- [1] Gal A. Kaminka and Natalie Fridman. Simulating urban pedestrian crowds of different cultures. *ACM Transactions on Intelligent Systems and Technology*, 9(3):27:1–27:27, 2018.
- [2] Gal A. Kaminka, Rachel Spokoini-Stern, Yaniv Amir, Noa Agmon, and Ido Bachelet. Molecular robots obeying Asimov’s three laws of robotics. *Artificial Life*, 23(3):343–350, 2017.
- [3] Roi Yehoshua, Noa Agmon, and Gal A. Kaminka. Robotic adversarial coverage of known environments. *International Journal of Robotics Research*, 2016.
- [4] Eliahu Khalastchi, Meir Kalech, Gal A. Kaminka, and Raz Lin. Online data driven anomaly detection in autonomous robots. *Knowledge and Information Systems*, 43(3):657–688, 2015.
- [5] Ariella Richardson, Gal A. Kaminka, and Sarit Kraus. REEF: Resolving length bias in frequent sequence mining using sampling. *International Journal On Advances in Intelligent Systems*, 7(1–2):208–222, 2014.
- [6] Elisheva Bonchek-Dokow and Gal A. Kaminka. Towards computational models of intention detection and intention prediction. *Cognitive Systems Research*, 28(1):44–79, 2014.
- [7] Matan Keidar and Gal A. Kaminka. Efficient frontier detection for robot exploration. *International Journal of Robotics Research*, 33(2):215–236, 2014.
- [8] Peter Stone, Gal A. Kaminka, Sarit Kraus, Jeff Rosenschein, and Noa Agmon. Teaching and leading an ad hoc teammate: Collaboration without pre-coordination. *Artificial Intelligence*, 203:35–65, 2013.

- [9] Natalie Fridman and Gal A. Kaminka. Using qualitative reasoning for social simulation of crowds. *ACM Transactions on Intelligent Systems and Technology*, 4(3):54:1–54:21, June 2013.
- [10] Noa Agmon, Sarit Kraus, and Gal A. Kaminka. Multi-robot adversarial patrolling: Facing a full-knowledge opponent. *Journal of Artificial Intelligence Research*, 42:887–916, December 2011.
- [11] Asaf Shiloni, Noa Agmon, and Gal A. Kaminka. Of robot ants and elephants: A computational comparison. *Theoretical Computer Science*, 412(41):5771–5788, 2011.
- [12] José A. Iglesias, Agapito Ledezma, Araceli Sanchis, and Gal A. Kaminka. A plan classifier based on chi-square distribution tests. *Intelligent Data Analysis*, 15(2):131–149, 2011.
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- [16] Meir Kalech and Gal A. Kaminka. Coordination diagnostic algorithms for teams of situated agents: Scaling-up. *Computational Intelligence*, 27(3):393–421, 2011.
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- [18] Noa Agmon, Meytal Traub, Sarit Kraus, and Gal A. Kaminka. Task reallocation in multi-robot formations. *Journal of Physical Agents*, 4(2):1–10, 2010.
- [19] Yehuda Elmaliach, Noa Agmon, and Gal A. Kaminka. Multi-robot area patrol under frequency constraints. *Annals of Math and Artificial Intelligence*, 57(3–4):293–320, 2010.
- [20] Michael Lindner, Meir Kalech, and Gal A. Kaminka. A representation for coordination fault detection in large-scale multi-agent systems. *Annals of Math and Artificial Intelligence*, 56(2):153–186, 2009.
- [21] Gal A. Kaminka. Detecting disagreements in large-scale multi-agent teams. *Journal of Autonomous Agents and Multi-Agent Systems*, 18(3):501–525, 2009.
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### **Rigorously-Refereed Conference Publications**

- [1] Gal A. Kaminka, Mor Vered, and Noa Agmon. Plan recognition in continuous domains. In *Proceedings of the AAAI Conference on Artificial Intelligence*, 2018. An earlier version was published in the IJCAI 2017 workshop on Goal Reasoning.
- [2] Mor Vered and Gal A. Kaminka. Heuristic online goal recognition in continuous domains. In *Proceedings of the International Joint Conference on Artificial Intelligence*, 2017. An improved version (with minor corrections) is available as arxiv:1709.09839.
- [3] Mor Vered, Gal A. Kaminka, and Sivan Biham. Online goal recognition through mirroring: Humans and agents. In *Proceedings of the Annual Conference on Advances in Cognitive Systems*, 2016. A slightly modified version appears in Proceedings of the IJCAI 2016 workshop on Human-Agent Interaction Design and Models (HAIDM).
- [4] Inbal Wiesel-Kapah, Gal A. Kaminka, Guy Hachmon, Noa Agmon, and Ido Bachelet. Rule-based programming of molecular robot swarms for biomedical applications. In *Proceedings of the International Joint Conference on Artificial Intelligence*, pages 3505–3512, 2016.
- [5] Roi Yehoshua, Noa Agmon, and Gal A. Kaminka. Frontier-based RTDP: A new approach to solving the robotic adversarial coverage problem. In *Proceedings of the Fourteenth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-15)*, 2015.
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- [7] Shahar Kostı, Gal A. Kaminka, and David Sarne. A novel user-guided interface for robot search. In *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-14)*, 2014.

- [8] Roi Yehoshua, Noa Agmon, and Gal A. Kaminka. Towards efficient robot adversarial coverage. In *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-13)*, 2013.
- [9] Natalie Fridman, Gal A. Kaminka, and Avishay Zilka. The impact of culture on crowd dynamics: An empirical approach. In *Proceedings of the Twelfth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-13)*, 2013.
- [10] Gal A. Kaminka. Curing robot autism: A challenge. In *Proceedings of the Twelfth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-13)*, 2013.
- [11] Matan Keidar and Gal A. Kaminka. Fast frontier detection for robot exploration: Theory and experiments. In *Proceedings of the Eleventh International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-12)*, 2012.
- [12] Boštjan Kaluža, Gal A. Kaminka, and Milind Tambe. Detection of suspicious behavior from a sparse set of multiagent interactions. In *Proceedings of the Eleventh International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-12)*, 2012.
- [13] Natalie Fridman, Tomer Zilberstein, and Gal A. Kaminka. Predicting demonstrations' violence level using qualitative reasoning. In *International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction (SBP-2011)*, pages 42–50, 2011.
- [14] Meytal Traub, Gal A. Kaminka, and Noa Agmon. Who goes *there*? using social regret to select a robot to reach a goal. In *Proceedings of the Tenth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-11)*, 2011.
- [15] Eliahu Khalastchi, Meir Kalech, Gal A. Kaminka, and Raz Lin. Online anomaly detection in unmanned vehicles. In *Proceedings of the Tenth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-11)*, pages 115–122, 2011.
- [16] Jason Tsai, Natalie Fridman, Matthew Brown, Andrew Ogden, Inbal Rika, Xuezhi Wang, Shira Epstein, Avishay Zilka, Matthew Taylor, Milind Tambe, Emma Bowring, Stacy Marsella, Gal A. Kaminka, and Ankur Sheel. ES-CAPES - evacuation simulation with children, authorities, parents, emotions, and social comparison. In *Proceedings of the Tenth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-11)*, 2011.
- [17] Peter Stone, Gal A. Kaminka, Sarit Kraus, and Jeffrey Rosenschein. Ad hoc autonomous agent teams: Collaboration without pre-coordination. In *Proceedings of the Twenty-Fourth AAAI Conference on Artificial Intelligence (AAAI-10)*, 2010.
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- [21] Natalie Fridman, Gal A. Kaminka, and Meytal Traub. First steps towards a social comparison model of crowds. In *International Conference on Cognitive Modeling (ICCM-09)*, 2009.
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- [23] Elisheva Bonchek-Dokow, Gal A. Kaminka, and Carmel Domshlak. Distinguishing between intentional and unintentional sequences of actions. In *International Conference on Cognitive Modeling (ICCM-09)*, 2009.
- [24] Noa Agmon, Sarit Kraus, Gal A. Kaminka, and Vladimir Sadov. Adversarial uncertainty in multi-robot patrol. In *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI-09)*, 2009.

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- [27] Yehuda Elmaliach, Asaf Shiloni, and Gal A. Kaminka. A realistic model of frequency-based multi-robot fence patrolling. In *Proceedings of the Seventh International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-08)*, volume 1, pages 63–70, 2008.
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- [29] Noa Agmon, Sarit Kraus, and Gal A. Kaminka. Multi-robot perimeter patrol in adversarial settings. In *Proceedings of IEEE International Conference on Robotics and Automation (ICRA-08)*, 2008.
- [30] Dorit Avrahami-Zilberbrand and Gal A. Kaminka. Utility-based plan recognition: An extended abstract (short paper). In *Proceedings of the Sixth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-07)*, 2007.
- [31] Gal A. Kaminka and Natalie Fridman. Social comparison in crowds: A short report (short paper). In *Proceedings of the Sixth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-07)*, 2007.
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- [33] Dorit Avrahami-Zilberbrand and Gal A. Kaminka. Incorporating observer biases in keyhole plan recognition (efficiently!). In *Proceedings of the Twenty-Second National Conference on Artificial Intelligence (AAAI-07)*, pages 944–949, 2007.
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- [35] Zinovi Rabinovich, Jeffrey S. Rosenschein, and Gal A. Kaminka. Dynamics based control with an application to area-sweeping problems. In *Proceedings of the Sixth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-07)*, 2007.
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- [48] Yoav Horman and Gal A. Kaminka. Removing statistical biases in unsupervised sequence learning. In *Proceedings of Intelligent Data Analysis (IDA-05)*, Madrid, Spain, 2005.
- [49] Gal A. Kaminka and Inna Frenkel. Flexible teamwork in behavior-based robots. In *Proceedings of the Twentieth National Conference on Artificial Intelligence (AAAI-05)*, 2005.
- [50] Noa Agmon, Gal A. Kaminka, and Sarit Kraus. Team member-reallocation via tree pruning. In *Proceedings of the Twentieth National Conference on Artificial Intelligence (AAAI-05)*, 2005.
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- [52] Dorit Avrahami-Zilberbrand and Gal A. Kaminka. Fast and complete symbolic plan recognition. In *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI-05)*, pages 653–658, 2005.
- [53] Meir Kalech and Gal A. Kaminka. Towards model-based diagnosis of coordination failures. In *Proceedings of the Twentieth National Conference on Artificial Intelligence (AAAI-05)*, 2005.
- [54] Meir Kalech and Gal A. Kaminka. Diagnosing a team of agents: Scaling-up. In *Proceedings of the Fourth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-05)*, 2005.
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- [56] Noam Hazon and Gal A. Kaminka. Redundancy, efficiency, and robustness in multi-robot coverage. In *Proceedings of IEEE International Conference on Robotics and Automation (ICRA-05)*, 2005.
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- [58] Gery Gutnik and Gal A. Kaminka. Towards a formal approach to overhearing: Algorithms for conversation identification. In *Proceedings of the Third International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-04)*, pages 78–85, 2004.
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- [60] Thuc D.Vu, Jared Go, Gal A. Kaminka, Manuela M. Veloso, and Brett Browning. MONAD: A flexible architecture for multi-agent control. In *Proceedings of the Second International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-03)*, 2003.



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- [62] Gal A. Kaminka, David V. Pynadath, and Milind Tambe. Monitoring deployed agent teams. In *Proceedings of the Fifth International Conference on Autonomous Agents (Agents-01)*, pages 308–315, 2001.
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- [64] Stacy C. Marsella, Jafar Adibi, Yaser Al-Onaizan, Gal A. Kaminka, Ion Muslea, Marcello Tallis, and Milind Tambe. On being a teammate: Experiences acquired in the design of robocup teams. In *Proceedings of the Third International Conference on Autonomous Agents (Agents-99)*, pages 221–227, Seattle, WA, 1999. ACM Press.
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## Periodical Publications

- [1] Gal A. Kaminka. I have a robot, and I’m not afraid to use it! *AI Magazine*, 33(3):66–78, 2012.
- [2] Sarabjot Singh Anand, Daniel Bahls, Catherina R. Burghart, Mark Burstein, Huajun Chen, John Collins, Tom Dietterich, Jon Doyle, Chris Drummond, William Elazmeh, Christopher Geib, Judy Goldsmith, Hans W. Guesgen, Jim Hendler, Dietmar Jannach, Nathalie Japkowicz, Ulrich Junker, Gal A. Kaminka, Alfred Kobsa, Jerome Lang, David B. Leake, Lundy Lewis, Gerard Ligozat, Sofus Macskassy, Drew McDermott, Ted Metzler, Bamshad Mobasher, Ullas Nambiar, Zaiqing Nie, Klas Orsvan, Barry O’Sullivan, David Pynadath, Jochen Renz, Rita V. Rodriguez, Thomas Roth-Berghofer, Stefan Schulz, Rudi Studer, Yimin Wang, and Michael Wellman. AAAI-07 workshop reports. *AI Magazine*, 28(4):119–128, 2007. With Catherina Burghart, a report on the AAAI-2007 workshop on Evaluating Architectures for Intelligence.
- [3] Wolfgang Aichtner, Esmá Aimeur, Sarabjot Singh Anand, Doug Appelt, Naveen Ashish, Tiffany Barnes, Joseph E. Beck, M. Bernardine Dias, Prashant Doshi, Chris Drummond, William Elazmeh, Ariel Felner, Dayne Freitag, Hector Geffner, Christopher W. Geib, Richard Goodwin, Robert C. Holte, Frank Hutter, Fair Isaac, Nathalie Japkowicz, Gal A. Kaminka, Sven Koenig, Michail G. Lagoudakis, David Leake, Lundy Lewis, Hugo Liu, Ted Metzler, Rada Mihalcea, Bamshad Mobasher, Pascal Poupard, David V. Pynadath, Thomas Roth-Berghofer, Wheeler Ruml, Stefan Schulz, Sven Schwarz, Stephanie Seneff, Amit Sheth, Ron Sun, Michael Thielscher, Afzal Upal, Jason Williams, Steve Young, and Dmitry Zelenko. Reports on the twenty-first national conference on artificial intelligence (AAAI-06) workshop program. *AI Magazine*, 27(4):92–102, 2006. With Christopher W. Geib and David V. Pynadath, a report on the AAAI-06 workshop on Modeling Others from Observations (MOO-2006).
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- [6] Gal A. Kaminka, Manuela M. Veloso, Steve Schaffer, Chris Sollitto, Rogelio Adobbati, Andrew N. Marshall, Andrew Scholer, and Sheila Tejada. GameBots: A flexible test bed for multiagent team research. *Communications of the ACM*, 45(1):43–45, January 2002.

- [7] Milind Tambe, Jafar Adibi, Yaser Al-Onaizan, Ali Erdem, Gal A. Kaminka, Stacy C. Marsella, Ion Muslea, and Marcelo Tallis. ISIS: An explicit model of teamwork at robotcup-97. *AI Magazine*, 19(3):56 (Sidebar), 1998.
- [8] Weimin Shen, Jafar Adibi, Bonghan Cho, Gal A. Kaminka, Jihie Kim, Behnam Salemi, and Sheila Tejada. YODA: The young observant discovery agent. *AI Magazine*, 18(1):37–45, 1997.

### Refereed Book Chapters

- [1] Yinon Douchan and Gal A. Kaminka. The effectiveness index intrinsic reward for coordinating service robots. In Spring Berman, Melvin Gauci, Emilio Frazzoli, Andreas Kolling, Roderich Gross, Alcherio Martinoli, and Fumitoshi Matsuno, editors, *13th International Symposium on Distributed Autonomous Robotic Systems (DARS-2016)*. Springer, November 2016.
- [2] Gal A. Kaminka, Ilan Lupu, and Noa Agmon. Construction of optimal control graphs in multi-robot systems. In Spring Berman, Melvin Gauci, Emilio Frazzoli, Andreas Kolling, Roderich Gross, Alcherio Martinoli, and Fumitoshi Matsuno, editors, *13th International Symposium on Distributed Autonomous Robotic Systems (DARS-2016)*. Springer, November 2016.
- [3] Luca Giuggioli, Idan Arye, Alexandro Heiblum Robles, and Gal A. Kaminka. From ants to birds: A novel bio-inspired approach to online area coverage. In Spring Berman, Melvin Gauci, Emilio Frazzoli, Andreas Kolling, Roderich Gross, Alcherio Martinoli, and Fumitoshi Matsuno, editors, *13th International Symposium on Distributed Autonomous Robotic Systems (DARS-2016)*. Springer, November 2016.
- [4] Dorit Avrahami-Zilberbrand and Gal A. Kaminka. Keyhole adversarial plan recognition for recognition of suspicious and anomalous behavior. In Gita Sukthankar, Robert P. Goldman, Christopher Geib, David V. Pynadath, and Hung Bui, editors, *Plan, Activity, and Intent Recognition*, pages 87–121. Morgan Kaufmann, 2014.
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#### Other Refereed Publications

- [1] Mor Vered, Ramon Fraga Pereira, Maurício Cecílio Magnaguagno, Felipe Meneguzzi, and Gal A. Kaminka. Online goal recognition as reasoning over landmarks. In *AAAI workshop on Plan-, Activity-, and Intent- Recognition (PAIR)*, 2018.
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- [5] Roi Yehoshua, Noa Agmon, and Gal A. Kaminka. Frontier-based RTDP: A new approach to solving the robotic adversarial coverage problem. In *ICAPS 2015 Workshop on Planning and Robotics (PlanRob)*, 2015. A slightly revised version of the AAMAS 2015 paper of the same title.
- [6] Gal A. Kaminka. No robot is an island, no team an archipelago: Plan execution for cooperative multi-robot teams. In *ICAPS 2015 Workshop on Planning and Robotics (PlanRob)*, 2015.
- [7] Mor Vered and Gal A. Kaminka. If you can draw it, you can recognize it: Mirroring for sketch recognition. In *Proceedings of the AAMAS Workshop on Human-Agent Interaction Design and Models*, 2015.
- [8] Roi Yehoshua, Noa Agmon, and Gal A. Kaminka. Safest path adversarial coverage. In *AAMAS workshop on Autonomous Robots and Multirobot Systems (ARMS)*, 2014. This is an early version of the IROS-14 paper of same title.
- [9] Shahar Kostı, Gal A. Kaminka, and David Sarne. A novel user-guided interface for robot search. In *AAMAS workshop on Autonomous Robots and Multirobot Systems (ARMS)*, 2014. This is an early version of the IROS-14 paper of same title.
- [10] Ariella Richardson, Gal A. Kaminka, and Sarit Kraus. REEF: Resolving length bias in frequency sequence mining. In *The Third International Conference on Advances in Information Mining and Management (IMMM-2013)*, 2013. **Winner: Best paper award.**
- [11] Gal A. Kaminka, Meytal Traub, Dan Erusalimchik, and Yehuda Elmaliach. On the use of teamwork software for multi-robot formation control. In *AAMAS workshop on Autonomous Robots and Multirobot Systems (ARMS)*, 2013.

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- [13] Shahar Kosti, David Sarne, and Gal A. Kaminka. An effective collaborative interface for multi-robot search. In *IsraHCI 2013: The First Israeli Human-Computer Interaction Research Conference*, 2013.
- [14] Gal A. Kaminka. Autonomous agents research in robotics: A report from the trenches. In *AAAI Spring Symposium on Designing Intelligent Robots: Reintegrating AI*, 2012.
- [15] Gal A. Kaminka and Natalie Fridman. Using qualitative reasoning for social simulation of crowds: A preliminary report. In *25th International Workshop on Qualitative Reasoning*, 2011.
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- [43] Michael Lindner, Meir Kalech, and Gal A. Kaminka. Detecting coordination failures by observing groups: A formal approach. In *Proceedings of the IJCAI Workshop on Modeling Others from Observations (MOO-05)*, 2005.
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### **Abstracts and Short Papers**

- [1] Inbal Wiesel, Noa Agmon, and Gal A. Kaminka. A compiler for programming molecular robots. In *13th Annual Conference on Foundations of Nanoscience: Self-assembled architecture and devices (FNANO16)*, 2016.
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