Gal A. Kaminka

Full Curriculum Vitae

Computer Science Department
Bar Ilan University
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Research Interests

I am interested in the computational mechanisms that underlie intelligent social behavior, and how they fit together in an intelligent agent. Such mechanisms include the ability to understand what others are doing and intend to do, and to generate appropriate coordinated behavior. My research emphasizes both theory and experiments with robots to synthesize social intelligence in the lab, and in real-world applications.

Education

Ph.D., Computer Science University of Southern California 1995–2000
Thesis: *Execution Monitoring in Multi-Agent Environments*
Advisor: Professor Milind Tambe.
Committee members: Profs. George Bekey, Victor Lesser, Daniel O'Leary, Jeff Rickel

B.A. (*Cum Laude*), Computer Science Open University of Israel 1991–1994

Professional Experience

Professor Bar Ilan University 2012–present
I head the MAVERICK group at the Computer Science Department, conducting research in multi-robot systems and artificial intelligence. I am also affiliated with the *Gonda Brain Research Center* and the *Institute for Nanotechnology and Advanced Materials*.

Computer Science Department Chair Bar Ilan University 2020–2022
During the COVID pandemic... enough said.

Co-Founder & CTO BladeRanger 2016–2022
The company (TASE:BLRN) is developing autonomous robots and drones for cleaning solar power installations.

Advisory board member Intuition Robotics 2015–present
Advisory board member Carbyne 2014–present

Radcliffe Fellow Harvard University 2011–2012
On sabbatical at the Radcliffe Institute for Advanced Study, Harvard.

Senior Lecturer Bar Ilan University 2002–2008
Adjunct Assistant Professor Carnegie Mellon University 2002–2005

Post Doctorate Fellow Carnegie Mellon University 2000–2002
Under guidance of Prof. Manuela Veloso.

PhD. Candidate & Research Assistant 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.

Programmer Tovna Machine Translation Systems, Ltd. 1993–1995
Developed a system for maintaining file and typesetting formats through translation process, and a report system on statistics used in the translation, assisted in system administration.

Military Service Israel Defense Forces 1990–1993
Non-Commissioned Officer, rank: Sergeant First-Class

Assistant System Administrator Brandeis University Computer Science Department 1989

Programmer Shaham Computerized Educational Services 1986–1987
Converting the SEMEL tutoring system from Commodore 64 computers to Apple II computers.

Honors

Sciences Prizes & Distinctions

Fellow, European Association for AI 2017
The European Association for Artificial Intelligence (EurAI) *Fellows* 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%).

Landau Prize in Research and Science 2013
This is a prestigious national prize, awarded annually to 5 scientists, for internationally-recognized contributions and excellence. Award category: Exact Sciences—Robotics.

Radcliffe Fellow 2012
Radcliffe Institute for Advanced Study, Harvard University.

IBM Faculty Award 2004
For research excellence in the area of model-based diagnosis of multi-agent systems.

First Place, International RoboCup Coach League 2001
Third place, International RoboCup soccer simulation league 1997
Second place, AAAI-1996 International Robot Competition 1996

Best Paper Distinctions (1st-tier conferences)

Best Challenge Paper Award, AAMAS Conference 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.

Best of ICCM-2009 2009
Co-authored by Natalie Fridman, our paper in the International Conference on Cognitive Modeling (ICCM) was invited for publication in the *best of ICCM 2009* special issue of the journal Cognitive Systems Research.

Best of ICMAS-2000 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 *best of ICMAS 2000* special issue of the journal Autonomous Agents and Multi-Agent Systems.

Best of Agents-1999 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 *best of Agents 1999* special issue of the journal Autonomous Agents and Multi-Agent Systems.

Best Paper Distinctions (2nd-tier conferences)

Best Paper Award, IMMM Conference 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).

Best Paper Award, Cooperative Information Agents (CIA) 2007
Co-authored with Avi Rosenfeld, Claudia V. Goldman, and Sarit Kraus, our paper in the CIA conference won the best paper award.

Service and Institutional Recognition

Rector's Innovative Science Award Bar Ilan University 2017
With Dr. Noa Agmon, selected for our joint work on programming molecular robots.

Nominated for Best Senior Program Committee Member, AAMAS Conference 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.

Funding

Basic Science

Co-PI, Specialized Software Engineering for Intelligent Robots Ministry of Science 2020–2022
Lead PI: Prof. Meir Kalech (Ben Gurion University). Investigation of the empirical differences between AI and robotics software, and other software categories, as evidenced by standard software metrics.

Lead PI (Project Coordinator), Swarm Smarts Center of Excellence ISF 2018–2022
Co-PIs: Prof. Amir Ayali (Tel Aviv University), Dr. Noa Agmon (Bar Ilan University), Prof. Alfred Bruckstein (Technion). The Swarm Smarts center of excellence studies individual decision making in biological (locust) and synthetic (robot) swarms.

Co-PI, Decentralized Active Goal Recognition BSF-NSF 2018–2021
Co-PI: Prof. Christopher Amato (Boston University). Investigation of decentralized methods for goal and plan recognition, in particular emphasizing active decision-making to enable recognition. Funded by the *United States-Israel Binational Science Foundation* joint program with the *U.S. National Science Foundation* (BSF-NSF), in particular with the Information and Intelligence Systems (IIS) division.

PI, Plan Recognition by Mirroring Israel Science Foundation (ISF) 2016–2018
Investigating a novel approach to plan, activity, and intent recognition (PAIR), inspired by the primate mirroring neuron system. Terminated early due to ISF requirements, upon winning ISF *Swarm Smarts* Center-of-Excellence grant above.

PI, An exploration of plan recognition in cybersecurity BIU Cybersecurity Center 2016–2017
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

Co-PI, Human-Robot Interaction National Consortium Israel Innovation Authority 2022–2025
Lead PI: Prof. David Sarne (Bar Ilan University). A consortium of companies and academic groups to develop and apply human-robot interaction technologies.

PI, Learning Behaviors for Computer-Generated Forces MAFAT 2019–2020
Use machine learning to mine logs of human and agent behaviors, to bootstrap the capabilities of computer generated forces. Joint work with the IDF Battle Laboratory.

PI, ROBIL2: A robotics consortium MAFAT 2013–2018
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.

PI, Groups of Autonomous Marine Surface Vehicles MAFAT 2010–2012
Support and advise a MAFAT-funded project at University of Texas, building autonomy control modules for marine surface vehicles.

PI, Modeling Crowd Behavior MAFAT 2005–2012
Using cognitive architectures and other AI tools to model crowd behavior.

PI, Diagnosis and Decision-Support for UAVs MAFAT 2007–2010
Development of a multivariate monitoring system for detecting and diagnosing failures.

PI, Cooperation in Robotic Ground Platform MAFAT 2005–2009
Algorithms and control systems for teams of physical robots in security tasks.

PI, Social Comparison in Crowds U.S. Air Force Office of Scientific Research 2009,2011
Investigation of social comparison mechanisms in crowds.

PI, RoboSweep MAFAT 2004–2005
Robotic teams for efficient and robust area coverage.

Co-PI, Recognizing Anomalous Behavior 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.

Industry and Tech-Transfer

PI, Crowd behavior in homeland security simulation 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.

Co-PI, AIDL Boeing Research and Technology Europe 2014
Enabling higher levels of autonomy. Main PI: Dr. Noa Agmon, Bar Ilan University.

PI, PointBots MAFAT 2010–2013
Multirobot semi-autonomous exploration and mapping. A technology transfer and accelerated research and development program. Commercial partner: Cogniteam, Ltd.

PI, Autonomous robot mapping RAFAEL 2009
Demonstration of autonomous mapping capabilities by robots.

PI, Multi-Robot Formations with a Single Operator Ministry of Commerce 2007–2009
MAGNETON program. Commercial partner: Elbit Systems, Ltd.

PI, Research in multi-agent systems Samsung Telecommunications Research, Israel 2006–2007

PI, Teamwork in Computer Generated Forces Elbit Systems, Ltd. 2005–2006
Using the Soar architecture to model CGF teams.

Patents

Robotic Cooperative System **Granted**, 2016
Gal A. Kaminka, Assaf Friedler, Ari Yakir, Dan Erusalimchik, Yehuda Elmaliach. International application #PCT/IL2016/051163.
US 10,960,544 & 11,607,814; Japan 6884413; China 108602189; Australia 2016347660; Europe 3368250 (Spain 2927298); Israel 258995

Location-Based Image Retrieval **Granted**, 2013
Shahar Kosti, Gal A. Kaminka, and David Sarne. US Patent 10,025,798.

Anomaly Detection Methods, Devices and Systems **Granted**, 2012
Eliyahu Khalastchi, Gal A. Kaminka, Raz Lin, and Meir Kalech. US Patent 9,218,232.

Flexible Computer Vision **Granted**, 2011
Gal A. Kaminka and Eran Sadeh-Or. US Patent 8,965,130.

Voting by Peers with Limited Resources **Granted**, 2007
Meir Kalech, Sarit Karus, Gal A. Kaminka, and Claudia V. Goldman-Shenhar. US Patent 8,038,061.

Method and 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.

Invited Talks and Panels

Professional

Diverse Swarms are Better Swarms 2022
Center for Research on Computing and Society at Harvard University, LLPR seminar at Northeastern University.

Heterogeneous Swarms are Better Swarms 2020
RSS Workshop on Heterogeneous Multi-Robot Task Allocation and Coordination.

Lazy is Efficient (in Plan Recognition!) 2020
Invited keynote talk at the AAAI workshop on Plan, Activity and Intent Recognition (PAIR).

Many for One for Many: Challenges for Artificial Intelligence and Robotics 2017
Biomed TLV: 16th National Life sciences and Technology Week.

On the Importance of Failure & Other Lessons Learned 2017
Invited keynote talk at the AAMAS Doctoral Consortium.

Programming Nanobot Swarms for Biomedical Applications 2017
Invited keynote talk at the AAMAS workshop on Autonomous Robots and Multirobot Systems (ARMS), Ben Gurion University ABC Robotics Initiative.

Teams, Swarms, Crowds and Collectives: Special Cases? 2016
Invited keynote talk at the AAAI 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 AAAI 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 AAAI.

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

AI in Sci-Fi meets AI in Science 2019
A popular science panel with science fiction authors and editors, discussing how AI science reality meets (or does not meet) AI in science fiction literature, TV, and movies.

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.

Pets, Slaves, or Companions: Robots in Human Society 2012
A panel, part of a mini-symposium on *Robots in Human Society*. Moderated by Dr. Guy Hoffman. Other panelists include Prof. Ken Goldberg, Dr. Roey Tzezana.

The Present and Future of Robotics 2012
An invited popular science talk at the ICON TLV international sci-fi and fantasy festival (Hebrew). Available at http://www.youtube.com/watch?v=0QQHc-B-btM

Panel on the Technological Singularity: Fashionable Hysteria or a Certain Future? 2012
Moderated by Yael Dan, the other panel members included Dr. Immanuel Lotem, and Yanki Margalit.

No robot is an island: On the role of multi-robot technology in commercial robotics An invited talk at the World Innovation Summit 2009.

Multi-Robot Systems 2006–2009
An annual talk at the *Computer Science, Academy, and Industry* educational program for exceptional high-school students at Weizmann Institute of Science.

Robotics: Present and Future 2005
Bar Ilan Science Day keynote speech.

Robotics: Technological and Educational Challenge for Israel 2004
Haifa University robotics competition, keynote address.

Service

Professional Societies

Board Member International Foundation for Autonomous Agents and Multi-Agent Systems (IFAAMAS) 2008–2014
Member, Executive Committee RoboCup Federation 2010–2013
Member, Executive Council Association for Advancement of Artificial Intelligence (AAAI) 2008–2011

Journal Editing

Associate Editor Communications of the ACM (Robotics) 2014–Present
Coordinating Editor Journal of Autonomous Agents and Multi-Agent Systems 2007–2018
Associate Editor Journal of Artificial Intelligence Research (JAIR) 2013–2016
Associate Editor (Robotics) Annals of Mathematics and Artificial Intelligence (AMAI) 2008–2013
International Scientific Committee Journal of Physical Agents (JOPHA) 2010–2014
Guest Editor Annals of Mathematics and Artificial Intelligence: Special Issue BISFAI 2007. Co-edited with Sarit Kraus. 2009
Guest Editor Annals of Mathematics and Artificial Intelligence: Special Issue Multi-Robot Coverage, Search, and Exploration. Co-edited with Amir Shapiro. 2008

Conference Organization

Chair, BISFAI 2019
Member, IJCAI 2019 Advisory Committee 2019
Co-Chair, AAMAS Workshop Program 2018
Co-Chair, ICAPS Doctoral Mentoring Program 2018
Program Co-Chair, ECAI 2016
Co-Chair, MATES (German Conference on Multiagent System Technologies) 2015
Robotics Track Co-Chair, AAMAS 2015
Integrated Systems Track Co-Chair, AAAI 2015
Program Co-Chair, AAMAS 2010
Chair, AAMAS Workshop Program 2009
Co-Chair, AAMAS Doctoral Mentoring Program and Symposium 2008
Program Co-Chair, BISFAI 2007
Chair, AAMAS Doctoral Mentoring Program and Symposium 2004
Co-Chair, RoboCup Symposium 2002
Chair, RoboCup Soccer Simulation World Cup 2001
Chair, RoboCup Soccer Simulation Evaluation Sessions 1998–2001
Member, RoboCup Soccer Simulation Technical Committee 1998–2002

Workshop Organization

Founder & Co-Chair, ARMS (Autonomous Robots and Multirobot Systems) Workshop 2011–
Co-Chair, AAAI Workshop on Evaluating Architectures for Intelligence 2007
Program Co-Chair, EUMAS Workshop 2005
Founder & Chair/Co-Chair, MOO (Modeling Others from Observations) Workshop 2004–2006

Program Committee

Served as **program committee member** (PC), **senior program committee member** (SPC), **area chair**, and **reviewer** for various conferences: AAAI, AAMAS, IJCAI, ICRA, IROS, and others.1999–present.

External Ph.D. Examiner

Daniel Claes University of Liverpool, UK 2018
Decentralised multi-robot system towards coordination in real-world settings.

Michal Čáp Czech Technical University in Prague, Czech Republic 2017
Centralized and Decentralized Algorithms for Multi-Robot Trajectory Coordination.

Joana Dimas Couto Silva Universidade de Lisboa, Instituto Superior Técnico 2016
When "I" becomes "We": Creating Agents with Dynamic Identity.

Matthew Johnson Delft University of Technology, Netherlands 2014
Coactive Design: Designing Support for Interdependence in Human-Robot Teamwork.

Aris Valtazanos University of Edinburgh, UK 2013
Decision Shaping and Strategy Learning in Multi-Robot Interactions.

Boštjan Kaluža Jožef Stefan International Postgraduate School, Slovenia 2013
Detection of Anomalous and Suspicious Patterns from Spatio-Temporal Agent Traces.

Nicola Basilico Politecnico di Milano, Italy 2010
Navigation Strategies for Exploration and Patrolling with Autonomous Mobile Robots.

Lavindra de Silva RMIT University, Australia 2009
Planning in BDI Agent Systems.

David Poutakidis RMIT University, Australia 2008
Debugging Multi-Agent Systems with Design Documents.

Nikolaus Correll École Polytechnique Fédérale de Lausanne (EPFL), Switzerland 2007
Coordination Schemes for Distributed Boundary Coverage with a Swarm of Miniature Robots: Analyses and Experimental Validation.

Eric Platon Laboratoire dínformatique de Paris 6, Université Pierre et Marie Curie 2007
Modeling Exception Management in Multi-Agent Systems.

Silvia Rossi 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*, *Agents in Physical Systems*, *Seminar in Plan- and Goal- Recognition*, 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.

Students

Graduated Total 13 PhDs, 29 MSc.

Current Ph.D.

Lee-or Alon Ph.D. student
Planning for Molecular Robotics.

Eyal Weiss Ph.D. student
Online modeling for offline planning.

Current M.Sc.

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

Karen Katz M.Sc. student
Competitive Multi-Swarm Systems.

Alumni Ph.D.

Roi Yehoshua Ph.D. 2018
Robotic Adversarial Coverage. Co-advised by Noa Agmon, Bar Ilan University. *Now faculty at Northeastern University, USA.*

Mor Vered Ph.D. 2018
Mirroring: A General Approach to Plan and Goal Recognition. Winner of the IAAI (Israel Association for AI) *Outstanding Dissertation* Award. *Now faculty at Monash University, Australia.*

Sharon Yalov-Handzel Ph.D. 2016
Stable Humanoid Whole Body Motion Generation. *Now faculty at Afeka Tel-Aviv College of Engineering.*

Natalie Fridman Ph.D. 2013
Modeling Crowd Behavior. *previously VP of Research and Innovation at ImageSat International. Now Co-Founder and CTO of a new startup.*

Elisheva Bonchek-Dokow Ph.D. 2012
Cognitive Modeling of Human Intention Recognition. *Now faculty at Ashkelon College.*

Ariella Richardson Ph.D. 2011
Mining and Classification of Multivariate Sequential Data. Co-advised by Sarit Kraus, Bar Ilan University. *Now faculty at Jerusalem College of Technology.*

Noa Agmon 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 *IFAAMAS Victor Lesser Best Dissertation* Award. *Now faculty at Bar Ilan University, Israel.*

Yehuda Elmaliach Ph.D. 2009
Multi-Robot Frequency-Based Patrolling. *Co-Founder and CEO of Cogniteam, Ltd.*

Dorit Avrahami-Zilberbrand Ph.D. 2009
Efficient Hybrid Algorithms for Plan Recognition and Detection of Suspicious and Anomalous Behavior.

Avi Rosenfeld Ph.D. 2007
Adaptive coordination for multi-robot and multi-agent teams. Co-advised by Sarit Kraus, Bar Ilan University. *Now faculty at Jerusalem College of Technology.*

Yael Termin 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.

Meir Kalech Ph.D. 2007
Diagnosing Coordination Faults in Multi-Agent Systems. *Now faculty at Ben Gurion University, Israel.*

Gery Gutnik Ph.D. 2006
Monitoring large-scale multi-agent systems using overhearing.

Alumni M.Sc. (thesis)

David Krongauz M.Sc. 2023
Vision-Based Collective Motion: A Locust Inspired Reductionist Approach.

Elad Mintzer M.Sc. 2022
Using Machine Learning for Behavior Modeling from Logs in Continuous Settings.

Shify Treger M.Sc. 2022
Computational Modeling of Human Goal Recognition.

Alon Zanbar M.Sc. 2022
Empirical Evaluation of Autonomous Agents Software using Code Metrics.

Eden Hartman M.Sc. 2022
Swarming Bandits: A Rational and Practical Model of Swarm Robotic Tasks.

Mika Barkan M.Sc. 2020
Predictive Execution Monitoring in Layered Recipes.

Yinon Douchan M.Sc. 2018
Reinforcement Learning in Multi-Robot Swarms (Mechanical Engineering, Tel Aviv University). Co-advised by Avraham Seifert, Tel Aviv University.

Inbal Wiesel-Kapah M.Sc. 2016
Rule-based programming of molecular nano-robots. Co-advised by Ido Bachelet and Noa Agmon at Bar Ilan University.

Ilan Lupu M.Sc. 2015
Optimal Construction of Control Graphs in Multi-Robot Systems. Co-advised by Noa Agmon, Bar Ilan University.

Shahar Kosti M.Sc. 2013
Single Operator Control of Multiple Robots in Exploration. Co-advised by David Sarne, Bar Ilan University.

Limor Marciano (Bagizada) M.Sc. 2013
CPNP: Colored Petri-Net Plans for Single and Multiple Robots.

Matan Kedar M.Sc. 2012
Fast Frontier Detector for Robot Exploration.

Meytal Traub M.Sc. 2011
Topics in Multi-Robot Teamwork.

Eliyahu Khalastchi M.Sc. 2010
Anomaly detection and diagnosis in robots and unmanned vehicles. Co-advised by Meir Kalech, and by Raz Lin

Asaf Shiloni M.Sc. 2010
Robot *Ants* and *Elephants*: Computational multi-robot systems. Co-advised by Noa Agmon and Ariel Felner.

Igor Vainer M.Sc. 2009
Obtaining Scalable and Accurate Classification in Large Scale Spatiotemporal Domains. Co-advised by Sarit Kraus, Bar Ilan University.

Dan Erusalimchik M.Sc. 2009
Adaptive multi-robot coordination based on resource spending velocity.

Victor Shafran M.Sc. 2008
Multilateral distributed matchmaking, and hybrid multi-robot coverage. Co-advised by Sarit Kraus, Bar Ilan University.

Niron Cohen-Nov-Slapak M.Sc. 2008
On Integrated Multi-Agent Intention Recognition Systems.

Ari Yakir M.Sc. 2007
Soaring Higher: Advanced Teamwork and Development Environment for Computer-Generated Forces.

Gilad Armon-Kest M.Sc. 2007
Supporting Collaborative Activity. Co-advised by Sarit Kraus, Bar Ilan University.

Natalie Fridman M.Sc. 2007
Modeling Crowd Behavior Based On Social Comparison Theory.

Ido Ikar M.Sc. 2007
Area Coverage by a Multi-Robot System.

Einat Marhasev (Haifa University, Computer Science) M.Sc. 2007
Recognition of Duration-Based Behavioral Patterns with Hidden Semi Markov Models. Co-advised by Meirav Hadad.

Edi Shmukler M.Sc. 2006
Anytime Fuzzy Control.

Eran Shoham (Technion, Industrial Engineering) M.Sc. 2006
Multi-Agent Coalition Reformation and League Ranking. Co-advised by Onn Shehory, IBM Research and the Technion.

Inna Frenkel M.Sc. 2005
Flexible Teamwork in Behavior-Based Robots

Danny Shimony M.Sc. 2005
A tool for multi-user, multi-application modeling.

Noam Hazon M.Sc. 2005
Robust and efficient multi-robot coverage.

Ruti Glick M.Sc. 2005
Robust multi-robot formations.

Yehuda Elmaliach M.Sc. 2004
Single operator control of tightly-coordinated multi-robot teams.

Dorit Avrahami M.Sc. 2004
Symbolic behavior recognition.

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: Internatioal 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. *EUMAS 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] David L. Krongauz, Amir Ayali, and Gal A. Kaminka. Vision-based collective motion: A locust-inspired reductionist model. *PLOS Computational Biology*, 20(1):e1011796, 2024.

[2] Amir Ayali and Gal A. Kaminka. The hybrid bio-robotic swarm as a powerful tool for collective motion research: a perspective. *Frontiers in Neurorobotics*, 17:1215085, 2023.

[3] Reuth Mirsky, Ran Galun, Kobi Gal, and Gal A. Kaminka. Comparing plan recognition algorithms through standard plan libraries. *Frontiers in Artificial Intelligence*, 4, 2022.

[4] Shify Treger and Gal A. Kaminka. Towards computational modeling of human goal recognition. *Frontiers in Artificial Intelligence*, 4, 2022.

[5] 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.

[6] 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.

[7] Roi Yehoshua, Noa Agmon, and Gal A. Kaminka. Robotic adversarial coverage of known environments. *International Journal of Robotics Research*, 2016.

[8] 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.

[9] 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.

[10] Elisheva Bonchek-Dokow and Gal A. Kaminka. Towards computational models of intention detection and intention prediction. *Cognitive Systems Research*, 28(1):44–79, 2014.

[11] Matan Keidar and Gal A. Kaminka. Efficient frontier detection for robot exploration. *International Journal of Robotics Research*, 33(2):215–236, 2014.

[12] 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.

[13] 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.

[14] 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.

[15] Asaf Shiloni, Noa Agmon, and Gal A. Kaminka. Of robot ants and elephants: A computational comparison. *Theoretical Computer Science*, 412(41):5771–5788, 2011.

[16] 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.

[17] Natalie Fridman and Gal A. Kaminka. Towards a computational model of social comparison: Some implications for the cognitive architecture. *Cognitive Systems Research*, 12(2):186–197, 2011.

[18] Igor Vainer, Gal A. Kaminka, Sarit Kraus, and Hamutal Slovin. Obtaining scalable and accurate classification in large scale spatio-temporal domains. *Knowledge and Information Systems*, 29(3):527–564, 2011.

[19] Meir Kalech, Sarit Kraus, Gal A. Kaminka, and Claudia V. Goldman. Practical voting rules with partial information. *Journal of Autonomous Agents and Multi-Agent Systems*, 22(1):151–182, 2011.

[20] Meir Kalech and Gal A. Kaminka. Coordination diagnostic algorithms for teams of situated agents: Scaling-up. *Computational Intelligence*, 27(3):393–421, 2011.

[21] Natalie Fridman and Gal A. Kaminka. Modeling pedestrian crowd behavior based on a cognitive model of social comparison theory. *Computational and Mathematical Organizational Theory*, 16(4):348–372, 2010. Special issue on Social Simulation from the Perspective of Artificial Intelligence.

[22] 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.

[23] 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, 2009.

[24] 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.

[25] Gal A. Kaminka. Detecting disagreements in large-scale multi-agent teams. *Journal of Autonomous Agents and Multi-Agent Systems*, 18(3):501–525, 2009.

[26] Avi Rosenfeld, Sarit Kraus, Gal A. Kaminka, and Claudia V. Goldman. PHIRST: A distributed architecture for P2P information retrieval. *Information Systems*, 34(2):290–303, 2009.

[27] Einat Marhasev, Meirav Hadad, Gal A. Kaminka, and Uri Feintuch. The use of hidden semi-markov models in clinical diagnosis maze tasks. *Intelligent Data Analysis*, 13(6):943–967, 2009.

[28] Yehuda Elmaliach and Gal A. Kaminka. Robust multi-robot formations under human supervision and control. *Journal of Physical Agents*, 2(1):31–52, 2008.

[29] Noam Hazon and Gal Kaminka. On redundancy, efficiency, and robustness in coverage for multiple robots. *Robotics and Autonomous Systems*, 56(12):1102–1114, 2008.

[30] Gal A. Kaminka and Amir Shapiro. Editorial: Annals of mathematics and artificial intelligence special issue on multi-robot coverage, search, and exploration. *Annals of Math and Artificial Intelligence*, 52(2–4):107–108, 2008.

[31] Noa Agmon, Noam Hazon, and Gal A. Kaminka. The giving tree: Constructing trees for efficient offline and online multi-robot coverage. *Annals of Math and Artificial Intelligence*, 52(2–4):143–168, 2008.

[32] Gal A. Kaminka, Ruti Schechter-Glick, and Vladimir Sadov. Using sensor morphology for multi-robot formations. *IEEE Transactions on Robotics*, pages 271–282, 2008.

[33] Avi Rosenfeld, Gal A. Kaminka, Sarit Kraus, and Onn Shehory. A study of mechanisms for improving robotic group performance. *Artificial Intelligence*, 172(6–7):633–655, 2008.

[34] Meir Kalech and Gal A. Kaminka. On the design of coordinated diagnosis algorithms for teams of situated agents. *Artificial Intelligence*, 171:491–513, 2007.

[35] Yoav Horman and Gal A. Kaminka. Removing biases in unsupervised learning of sequential patterns. *Intelligent Data Analysis*, 11(5):457–480, 2007.

[36] Yael Termin, Gal A. Kaminka, Sarit Semo, and Ari Z. Zivotofsky. Color stereoscopic images require only one color image. *Optical Engineering*, 46(8):087003–1–087003–11, 2007.

[37] Gery Gutnik and Gal A. Kaminka. Representing conversations for scalable overhearing. *Journal of Artificial Intelligence Research*, 25:349–387, 2006.

[38] Gal A. Kaminka, Ian Frank, Katsuto Arai, and Kumiko Tanaka-Ishii. Performance competitions as research infrastructure: Large scale comparative studies of multi-agent teams. *Journal of Autonomous Agents and Multi-Agent Systems*, 7(1–2):121–144, 2003.

[39] Gal A. Kaminka, David V. Pynadath, and Milind Tambe. Monitoring teams by overhearing: A multi-agent plan recognition approach. *Journal of Artificial Intelligence Research*, 17:83–135, 2002.

[40] Stacy C. Marsella, Jafar Adibi, Yaser Al-Onaizan, Gal A. Kaminka, Ion Muslea, M. Tallis, and Milind Tambe. Experiences acquired in the design of robocup teams: a comparison of two fielded teams. *Journal of Autonomous Agents and Multi-Agent Systems*, 4(1–2):115–129, 2001.

[41] Gal A. Kaminka and Milind Tambe. Robust multi-agent teams via socially-attentive monitoring. *Journal of Artificial Intelligence Research*, 12:105–147, 2000.

[42] Milind Tambe, Jafar Adibi, Yaser Al-Onaizan, Ali Erdem, Gal A. Kaminka, Stacy C. Marsella, and Ion Muslea. Building agent teams using an explicit teamwork model and learning. *Artificial Intelligence*, 111(1):215–239, 1999.

Rigorously-Refereed Conference Publications

[1] Eyal Weiss, Ariel Felner, and Gal A. Kaminka. Tightest admissible shortest path. In *Proceedings of the International Conference on Autonomated Planning and Scheduling (ICAPS)*, 2024.

[2] Eyal Weiss, Ariel Felner, and Gal A. Kaminka. A generalization of the shortest path problem to graphs with multiple edge-cost estimates. In *Proceedings of the European Conference on Artificial Intelligence (ECAI)*, pages 2607–2614, 2023.

[3] Tom Mashiach, Bruno Sotto-Mayor, Gal A. Kaminka, and Meir Kalech. CLEAN++: Code smells extraction for C++. In *Proceedings of the International Conference on Mining Software Repositories (MSR)*, pages 441–445, 2023.

[4] Eyal Weiss and Gal A. Kaminka. Planning with multiple action-cost estimates. In *Proceedings of the International Conference on Autonomated Planning and Scheduling (ICAPS)*, pages 427–437, 2023.

[5] Yinon Douchan, Ran Wolf, and Gal A. Kaminka. Swarms can be rational. In *Proceedings of the International Joint Conference on Autonomous Agents and Multi-Agent Systems*, 2019.

[6] Gal A. Kaminka, Mor Vered, and Noa Agmon. Plan recognition in continuous domains. In *Proceedings of the AAAI Conference on Artificial Intelligence*, 2018.

[7] Mor Vered and Gal A. Kaminka. Heuristic online goal recognition in continuous domains. In *Proceedings of the International Joint Conference on Artificial Intelligence*, pages 4447–4454, 2017. An improved version (with minor corrections) is available as arxiv:1709.09839.

[8] 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).

[9] 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.

[10] 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.

[11] Roi Yehoshua, Noa Agmon, and Gal A. Kaminka. Safest path adversarial coverage. In *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-14)*, 2014.

[12] Shahar Kosti, 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.

[13] 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.

[14] 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.

[15] 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.

[16] 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. For the definitive paper, look at "Keidar, M. and Kaminka, G.A. "Efficient Frontier Detection for Robot Exploration", Int'l Journal of Robotics Research 2014, at http://https://u.cs.biu.ac.il/ kaminkg/publications/b2hd-ijrr14.html .

[17] 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.

[18] 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.

[19] Meytal Traub, Gal A. Kaminka, and Noa Agmon. Who goes *there*? selecting a robot to reach a goal using social regret. In *Proceedings of the Tenth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-11)*, 2011.

[20] 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.

[21] 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. ESCAPES - 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.

[22] 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.

[23] Raz Lin, Eliyahu Khalastchi, and Gal A. Kaminka. Detecting anomalies in unmanned vehicles using the mahalanobis distance. In *Proceedings of IEEE International Conference on Robotics and Automation (ICRA-10)*, 2010.

[24] Gal A. Kaminka, Dan Erusalimchik, and Sarit Kraus. Adaptive multi-robot coordination: A game-theoretic perspective. In *Proceedings of IEEE International Conference on Robotics and Automation (ICRA-10)*, 2010.

[25] Igor Vainer, Sarit Kraus, Gal A. Kaminka, and Hamutal Slovin. Scalable classification in large scale spatiotemporal domains applied to voltage-sensitive dye imaging. In *Proceedings of the IEEE International Conference on Data Mining (ICDM 2009)*, 2009.

[26] 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.

[27] Natalie Fridman and Gal A. Kaminka. Comparing human and synthetic group behaviors: A model based on social psychology. In *International Conference on Cognitive Modeling (ICCM-09)*, 2009.

[28] 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.

[29] 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.

[30] Asaf Shiloni, Noa Agmon, and Gal A. Kaminka. Of robot ants and elephants. In *Proceedings of the Eighth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-09)*, 2009.

[31] Noa Agmon, Vladimir Sadov, Gal A. Kaminka, and Sarit Kraus. The impact of adversarial knowledge on adversarial planning in perimeter patrol. In *Proceedings of the Seventh International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-08)*, volume 1, pages 55–62, 2008.

[32] 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.

[33] Victor Shafran, Gal A. Kaminka, Sarit Kraus, and Claudia Goldman. Towards multidirectional distributed matchmaking (short paper). In *Proceedings of the Seventh International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-08)*, volume 3, pages 1437–1440, 2008.

[34] 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)*, pages 2339–2345, 2008.

[35] 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.

[36] 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.

[37] Natalie Fridman and Gal A. Kaminka. Towards a cognitive model of crowd behavior based on social comparison theory. In *Proceedings of the Twenty-Second National Conference on Artificial Intelligence (AAAI-07)*, 2007.

[38] 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.

[39] Ari Yakir and Gal A. Kaminka. An integrated development environment and architecture for Soar-based agents. In *Innovative Applications of Artificial Intelligence (IAAI-07)*, 2007.

[40] 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.

[41] Inon Zuckerman, Sarit Kraus, Jeffrey S. Rosenschein, and Gal A. Kaminka. An adversarial environment model for bounded rational agents in zero-sum interactions. In *Proceedings of the Sixth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-07)*, 2007.

[42] Gal A. Kaminka, Ari Yakir, Dan Erusalimchik, and Nirom Cohen-Nov. Towards collaborative task and team maintenance. In *Proceedings of the Sixth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-07)*, 2007.

[43] Ariel D. Procaccia, Jeffrey S. Rosenschein, and Gal A. Kaminka. On the robustness of preference aggregation in noisy environments. In *Proceedings of the Sixth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-07)*, 2007.

[44] Meir Kalech, Michael Lindner, and Gal A. Kaminka. Matrix-based representation for coordination fault detection: A formal approach. In *Proceedings of the Sixth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-07)*, 2007.

[45] Yehuda Elmaliach, Noa Agmon, and Gal A. Kaminka. Multi-robot area patrol under frequency constraints. In *Proceedings of IEEE International Conference on Robotics and Automation (ICRA-07)*, 2007.

[46] Gal A. Kaminka and Inna Frenkel. Integration of coordination mechanisms in the BITE multi-robot architecture. In *Proceedings of IEEE International Conference on Robotics and Automation (ICRA-07)*, 2007.

[47] Meir Kalech, Gal A. Kaminka, Amnon Meisels, and Yehuda Elmaliach. Diagnosis of multi-robot coordination failures using distributed CSP algorithms. In *Proceedings of the Twenty-First National Conference on Artificial Intelligence (AAAI-06)*, 2006.

[48] Gery Gutnik and Gal A. Kaminka. From centralized to distributed selective overhearing. In *Proceedings of the Twenty-First National Conference on Artificial Intelligence (AAAI-06)*, 2006.

[49] Gal A. Kaminka and Ruti Glick. Towards robust multi-robot formations. In *Proceedings of IEEE International Conference on Robotics and Automation (ICRA-06)*, 2006.

[50] Gal A. Kaminka and Yehuda Elmaliach. Experiments with an ecological interface for monitoring tightly-coordinated robot teams. In *Proceedings of IEEE International Conference on Robotics and Automation (ICRA-06)*, 2006.

[51] Noam Hazon, Fabrizio Mieli, and Gal A. Kaminka. Towards robust on-line multi-robot coverage. In *Proceedings of IEEE International Conference on Robotics and Automation (ICRA-06)*, 2006.

[52] Noa Agmon, Noam Hazon, and Gal A. Kaminka. Constructing spanning trees for efficient multi-robot coverage. In *Proceedings of IEEE International Conference on Robotics and Automation (ICRA-06)*, 2006.

[53] Yoav Horman and Gal A. Kaminka. Removing statistical biases in unsupervised sequence learning. In *Proceedings of Intelligent Data Analysis (IDA-05)*, Madrid, Spain, 2005.

[54] 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.

[55] 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.

[56] Merav Hadad, Gilad Armon-Kest, Gal A. Kaminka, and Sarit Kraus. Supporting collaborative activity. In *Proceedings of the Twentieth National Conference on Artificial Intelligence (AAAI-05)*, 2005.

[57] 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.

[58] 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.

[59] 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.

[60] Milind Tambe, E. Bowring, H. Jung, Gal A. Kaminka, R. Maheswaran, J. Marecki, P.J. Modi., R. Nair, S. Okamoto, J.P. Pearce, P. Paruchuri, David V. Pynadath, P. Scerri, N. Schurr, and P. Varakantham. Conflicts in teamwork: Hybrids to the rescue. In *Proceedings of the Fourth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-05)*, 2005. Milind Tambe's Agents Research Award Invited Paper.

[61] 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.

[62] Avi Rosenfeld, Gal A. Kaminka, and Sarit Kraus. Adaptive robot coordination using interference metrics. In *Proceedings of the European Conference on Artificial Intelligence (ECAI-2004)*, pages 910–916, 2004.

[63] 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.

[64] Meir Kalech and Gal A. Kaminka. On the design of social diagnosis algorithms for multi-agent teams. In *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI-03)*, 2003.

[65] 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)*, pages 449–456, 2003.

[66] Gal A. Kaminka and Michael Bowling. Towards robust teams with many agents. In *Proceedings of the First International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-02)*, 2002.

[67] 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.

[68] Milind Tambe, David V. Pynadath, Nicholas Chauvat, Abhimanyu Das, and Gal A. Kaminka. Adaptive agent integration architectures for heterogeneous team members. In *Proceedings of the Fourth International Conference on Multiagent Systems (ICMAS-00)*, pages 301–308, Boston, MA, 2000.

[69] 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.

[70] Milind Tambe, Gal A. Kaminka, Stacy C. Marsella, Ion Muslea, and Taylor Raines. Two fielded teams and two experts: A robocup challenge response from the trenches. In *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI-99)*, volume 1, pages 276–281, August 1999.

[71] Gal A. Kaminka and Milind Tambe. I'm OK, You're OK, We're OK: Experiments in distributed and centralized social monitoring and diagnosis. In *Proceedings of the Third International Conference on Autonomous Agents (Agents-99)*, pages 213–220, Seattle, WA, 1999. ACM Press. A slightly different version appears in proceedings of the IJCAI-99 workshop on team behavior and plan recognition.

[72] Gal A. Kaminka and Milind Tambe. What's wrong with us? Improving robustness through social diagnosis. In *Proceedings of the Fifteenth National Conference on Artificial Intelligence (AAAI-98)*, pages 97–104, Madison, WI, 1998. AAAI Press.

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 Orsvarn, 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 Achtner, Esma 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 Poupart, 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).

[4] Gal A. Kaminka. Robots are agents, too! *AgentLink News*, 16:16–17, December 2004.

[5] M. Asada, Obst. O., D. Polani, Brett Browning, A. Bonarini, M. Fujita, T. Christaller, T. Takahashi, S. Tadokoro, E. Sklar, and Gal A. Kaminka. An overview of RoboCup 2002 Fukuoka/Busan. *AI Magazine*, 24(2):21–40, 2003.

[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] Gal A. Kaminkai and Alon T. Zanbar. Intelligent agents are more complex: Initial empirical findings. In *Artificial Intelligence Methods for Software Engineering*, pages 87–100. World Scientific, 2021.

[2] Lee-Or Alon, Noa Agmon, and Gal A. Kaminka. Taking turns in complete coverage for multiple robots. In *14th International Symposium on Distributed Autonomous Robotic Systems (DARS-2018)*. Springer, 2018.

[3] 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.

[4] 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.

[5] 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.

[6] 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.

[7] Natalie Fridman, Gal A. Kaminka, and Avishay Zilka. Towards qualitative reasoning for policy decision support in demonstrations. In Francien Dechesne, Hiromitsu Hattori, Adriaan ter Mors, Jose M. Such, Danny Weyns, and Frank Dignum, editors, *Advanced Agent Technology: AAMAS 2011 Workshops. Revised Selected Papers*, volume 7068 of *Lecture Notes in Computer Science (LNCS)*, pages 19–34. Springer, 2012. Originally appeared in AMPLE 2011: First Workshop on Agent-based Modeling for Policy Engineering at AAMAS 2011.

[8] Matan Keidar, Eran Sadeh-Or, and Gal A. Kaminka. Fast frontier detection for robot exploration. In Francien Dechesne, Hiromitsu Hattori, Adriaan ter Mors, Jose M. Such, Danny Weyns, and Frank Dignum, editors, *Advanced Agent Technology: AAMAS 2011 Workshops. Revised Selected Papers*, volume 7068 of *Lecture Notes in Computer Science (LNCS)*, pages 281–294. Springer, 2012. Originally appeared in the Autonomous Robots and Multirobot Systems (ARMS) workshop at AAMAS 2011. This is an early (and incorrect) version of the later AAMAS 2012 paper with a similar title. For the definitive paper, look at "Keidar, M. and Kaminka, G.A. "Efficient Frontier Detection for Robot Exploration", Int'l Journal of Robotics Research 2014 (http://https://u.cs.biu.ac.il/ kaminkg/publications/b2hd-ijrr14.html).

[9] Eran Sadeh-Or and Gal A. Kaminka. AnySURF: Flexible local features computation. In Thomas Röfer, Norbert Michael Mayer, and Jesus Savage, editors, *RoboCup-2011: Robot Soccer World Cup XV*, LNAI. Springer, 2012. This is the full version of the abstract published in the AAMAS 2011 workshop proceedings.

[10] Peter Stone, Gal A. Kaminka, and Jeff S. Rosenschein. Leading a best-response teammate in an ad hoc team. In Esther David, E. Gerding, David Sarne, and Onn Shehory, editors, *Agent-Mediated Electronic Commerce. Designing Trading Strategies and Mechanisms for Electronic Markets. AMEC 2009, TADA 2009*, volume 59 of *Lecture Notes in Business Information Processing*, pages 132–146. Springer, Berlin, Heidelberg, 2010.

[11] Jose Antonio Iglesias, Agapito Ledezma, Araceli Sanchis, and Gal A. Kaminka. Classifying efficiently the behavior of a soccer team. In *Proceedings of the Tenth Conference on Intelligent Autonomous Systems (IAS-10)*. IOS Press, 2008.

[12] Dan Erusalimchik and Gal A. Kaminka. Towards adaptive multi-robot coordination based on resource expenditure velocity. In *Proceedings of the Tenth Conference on Intelligent Autonomous Systems (IAS-10)*. IOS Press, 2008.

[13] Noa Agmon, Gal A. Kaminka, and Sarit Kraus. Multi-robot fence patrol in adversarial domains. In *Proceedings of the Tenth Conference on Intelligent Autonomous Systems (IAS-10)*. IOS Press, 2008.

[14] Natalie Fridman and Gal A. Kaminka. Modeling imitational behavior via social comparison theory (extended abstract). In C. Pelachaud, J. Martin, E. Andre, G. Chollet, K. Karpouzis, and D. Pele, editors, *Intelligent Virtual Agents 2007*, volume 4722 of *LNAI*, pages 377–378. Springer-Verlag, 2007.

[15] Avi Rosenfeld, Claudia V. Goldman, Gal A. Kaminka, and Sarit Kraus. An agent architecture for hybrid p2p free-text search. In *Cooperative Information Agents (CIA) 2007*, LNCS. Springer-Verlag, 2007. This paper won the Best Paper award.

[16] Natalie Fridman and Gal A. Kaminka. Modeling crowd behavior based on social comparison theory: Extended abstract. In S. El Yacoubi, B. Chopard, and S. Bandini, editors, *ACRI 2006*, volume 4173 of *LNCS*, pages 694–698. Springer-Verlag, 2006.

[17] Avi Rosenfeld, Gal A. Kaminka, and Sarit Kraus. Adaptive robotic communication using coordination costs. In *Distributed Autonomous Robotic Systems 7*. Springer-Verlag, 2006.

[18] Gal A. Kaminka and Yehuda Elmaliach. Single operator, multiple robots: Call-request handling in tight-coordination tasks. In *Distributed Autonomous Robotic Systems 7*. Springer-Verlag, 2006.

[19] Gery Gutnik and Gal A. Kaminka. Experiments in selective overhearing of hierarchical organizations. In R. M. van Eijk, R. Flores, and M. P. Huget, editors, *Agent Communication II*, number 3859 in LNAI. Springer-Verlag, 2006.

[20] Avi Rosenfeld, Gal A. Kaminka, and Sarit Kraus. A study of scalability properties in robotic teams. In Paul Scerri, Régis Vincent, and Roger Mailler, editors, *Challenges in the Coordination of Large-Scale Multiagent Systems*, pages 27–51. Springer-Verlag, 2005.

[21] Gal A. Kaminka. Failure detection in large-scale multi-agent systems. In Paul Scerri, Régis Vincent, and Roger Mailler, editors, *Challenges in the Coordination of Large-Scale Multiagent Systems*, pages 273–286. Springer-Verlag, 2005.

[22] Gery Gutnik and Gal A. Kaminka. A scalable petri-net representation of interaction protocols for overhearing. In R. van Eijk, M. P. Huget, and F. Dignum, editors, *Developments in Agent Communication*, number 3396 in LNAI, pages 50–64. Springer-Verlag, 2005.

[23] Gal A. Kaminka, Yehuda Elmaliach, Inna Frenkel, Ruti Glick, Meir Kalech, and Tom Shpigelman. Towards a comprehensive framework for teamwork in behavior-based robots. In Frans Groen, Nancy Amato, Andrea Bonarini, Eiichi Yoshida, and Ben Kröse, editors, *Proceedings of the Eighth Conference on Intelligent Autonomous Systems (IAS-8)*, pages 217–226. IOS Press, 2004.

[24] Gal A. Kaminka. Multi-agent systems. In *Encyclopedia of Human-Computer Interaction*. Berkshire Publishing, 2004.

[25] Paul Carpenter, Patrick Riley, Manuela Veloso, and Gal A. Kaminka. Integration of advice in an action-selection architecture. In Gal A. Kaminka, Pedro U. Lima, and Raul Rojas, editors, *RoboCup-2002: Robot Soccer World Cup VI*, number 2752 in LNAI, pages 195–205. Springer Verlag, Berlin, 2003.

[26] Minoru Asada and Gal A. Kaminka. An overview of robocup 2002 Fukuoka/Busan. In Gal A. Kaminka, Pedro U. Lima, and Raul Rojas, editors, *RoboCup 2002: Robot Soccer World Cup VI*, number 2752 in LNAI, pages 1–7. Springer-Verlag, Berlin, 2003.

[27] Gal A. Kaminka, M. Fidanboylu, A. Chang, and Manuela M. Veloso. Learning the sequential behavior of teams from observations. In Gal A. Kaminka, Pedro U. Lima, and Raul Rojas, editors, *RoboCup 2002: Robot Soccer World Cup VI*, number 2752 in LNAI, pages 111–125. Springer-Verlag, Berlin, 2003.

[28] Brett Browning, Gal A. Kaminka, and Manuela Veloso. Principled monitoring of distributed agents for detection of coordination failures. In *Distributed Autonomous Robotic Systems 5*, pages 319–328. Springer-Verlag, 2002.

[29] Patrick Riley, Manuela Veloso, and Gal A. Kaminka. An empirical study of coaching. In H. Asama, T. Arai, T. Fukuda, and T. Hasegawa, editors, *Distributed Autonomous Robotic Systems 5*, pages 215–224. Springer-Verlag, 2002.

[30] Paul Carpenter, Patrick Riley, Gal A. Kaminka, Manuela Veloso, Ignacio Thayer, and Robert Wang. ChaMeleons-01 team description. In Andreas Birk, Silvia Coradeschi, and Satoshi Tadokoro, editors, *RoboCup-2001: Robot Soccer World Cup V*, number 2377 in Lecture Notes in Artificial Intelligence, pages 503–506. Springer-Verlag, Berlin, 2002.

[31] David V. Pynadath, Milind Tambe, and Gal A. Kaminka. Adaptive infrastructures for agent integration. In Tom Wagner and Omer Rana, editors, *Infrastructure for Agents, Multi-Agent Systems, and Scalable Multi-Agent Systems*, volume 1887 of *Lecture Notes in Computer Science*, pages 80–93. Springer Berlin / Heidelberg, 2001.

[32] Gal A. Kaminka. Preliminary short report on the robocup 1998 adaptive teamwork evaluation. In Manuela Veloso, Enrico Pagello, and Hiroaki Kitano, editors, *RoboCup-99: Robot Soccer World Cup III (LNAI 1856)*, pages 345–356. Springer-Verlag, 2000.

[33] Stacy C. Marsella, Jafar Adibi, Yaser Al-Onaizan, Ali Erdem, Randy Hill, Gal A. Kaminka, Zhun Qiu, and Milind Tambe. Using an explicit teamwork model and learning in robocup: An extended abstract. In Minoru Asada and Hiroaki Kitano, editors, *RoboCup'98: Robot Soccer World Cup II*, number 1604 in Lecture Notes in Artificial Intelligence, pages 237–245. Springer Verlag, 1999.

[34] Milind Tambe, Jafar Adibi, Yaser Al-Onaizan, Ali Erdem, Gal A. Kaminka, Stacy C. Marsella, Ion Muslea, and Marcelo Tallis. ISIS: Using an explicit model of teamwork in robocup-97. In *RoboCup'97: Robot Soccer World Cup I*, Lecture Notes in Artificial Intelligence, pages 123–131. Springer Verlag, 1998.

[35] Gal A. Kaminka and Milind Tambe. Social comparison for failure detection and recovery. In *Intelligent Agents IV: Agents, Theories, Architectures and Languages (ATAL-97)*, number 1365 in Lecture Notes in Artificial Intelligence, pages 127–141. Springer Verlag, 1998.

Other Refereed Publications

[1] Lee or Alon, Hana Weitman, and Gal A. Kaminka. First steps towards planning for targeted medicine. In *Proceedings of the ICAPS-23 Workshop on Knowledge Engineering for Planning and Scheduling (KEPS)*, 2023.

[2] Eyal Weiss, Ariel Felner, and Gal A. Kaminka. A generalization of the shortest path problem to graphs with multiple edge-cost estimates. In *Proceedings of the ICAPS-23 Workshop on Reliable Data-Driven Planning and Scheduling (RDDPS)*, 2023. An improved version appears in the European Conference on Artificial Intelligence (ECAI) 2023.

[3] Eyal Weiss and Gal A. Kaminka. Planning with dynamically estimated action costs. In *ICAPS-22 Workshop on Reliable Data-Driven Planning and Scheduling (RDDPS)*, 2022.

[4] Mika Barkan and Gal A. Kaminka. Robots predictive execution monitoring in bdi recipes. In *Proceedings of the 2019 AAMAS Workshop on Autonomous Robots and Multirobot Systems (ARMS)*, 2019.

[5] Alon Zanbar and Gal A. Kaminka. Agents are more complex than other software: An empirical investigation. In *Proceedings of the 2019 Workshop on Engineering Multi-Agent Systems (EMAS)*, 2019.

[6] 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.

[7] Reuth Mirsky, Ran Galun, Yaakov (Kobi) Gal, and Gal A. Kaminka. Comparing plan recognition algorithms through standard libraries. In *AAAI workshop on Plan-, Activity-, and Intent- Recognition (PAIR)*, 2018.

[8] Mor Vered and Gal A. Kaminka. Online recognition of navigation goals through goal mirroring. In *Proceedings of the 2017 AAMAS Workshop on Autonomous Robots and Multirobot Systems (ARMS)*, 2017.

[9] Niv Rafaeli and Gal A. Kaminka. Active perception at the architecture level: A preliminary report. In *Proceedings of the 2017 AAMAS Workshop on Autonomous Robots and Multirobot Systems (ARMS)*, 2017.

[10] Mor Vered, Ramon Fraga Pereira, Maurício Cecílio Magnaguagno, Felipe Meneguzzi, and Gal A. Kaminka. Online goal recognition combining landmarks and planning. In *IJCAI Workshop on Goal Reasoning*, 2017.

[11] Gal A. Kaminka, Mor Vered, and Noa Agmon. Plan-recognition as planning in continuous and discrete domains. In *IJCAI Workshop on Goal Reasoning*, 2017. A much improved version was published in the AAAI 2018 conference.

[12] 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.

[13] 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.

[14] 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.

[15] 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.

[16] Shahar Kosti, 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.

[17] 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.**

[18] 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.

[19] Roi Yehoshua, Noa Agmon, and Gal A. Kaminka. Towards efficient robot adversarial coverage. In *AAAI Workshop on Intelligent Robotic Systems*, 2013. This is a slightly revised version of the IROS-2013 of the same title.

[20] 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.

[21] Gal A. Kaminka. Autonomous agents research in robotics: A report from the trenches. In *AAAI Spring Symposium on Designing Intelligent Robots: Reintegrating AI*, 2012.

[22] 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.

[23] Eran Sadeh-Or and Gal A. Kaminka. AnySURF: Flexible local features computation. In *The Autonomous Robots and Multirobot Systems (ARMS) workshop at AAMAS 2011*, 2011. A slightly modified version appears in the RoboCup 2011 Proceedings.

[24] Boštjan Kaluˇ za, Gal A. Kaminka, and Milind Tambe. Towards detection of suspicious behavior from multiple observations. In *AAAI 2011 Workshop on Plan, Activity, and Intent Recognition (PAIR 2011)*, 2011.

[25] Ariella Richardson, Gal A. Kaminka, and Sarit Kraus. CUBS: Multivariate sequence classification using bounded z-score with sampling. In *Proceedings of the 4th workshop on Mining Multiple Information Sources (MMIS 2010), at ICDM 2010*, pages 72–79, 2010.

[26] Vladimir Sadov, Eliahu Khalastchi, Meir Kalech, and Gal A. Kaminka. Towards partial (and useful) model identification for model-based diagnosis. In *The Twenty-First International Workshop on Principles of Diagnosis (DX-10)*, 2010.

[27] Jason Tsai, Emma Bowring, Shira Epstein, Natalie Fridman, Prakhar Garg, Gal Kaminka, Andrew Ogden, Milind Tambe, and Matthew Taylor. Agent-based evacuation modeling: Simulating the los angeles international airport. In *Workshop on Emergency Management: Incident, Resource, and Supply Chain Management EMWS-09)*. Center for Emergency Response Technologies, University of California, Irvine, 2009.

[28] Raz Lin, Eliyahu Khalastchi, and Gal A. Kaminka. Detecting anomalies in unmanned vehicles using the mahalanobis distance. In *European Workshop on Multi-Agent Systems (EUMAS-09)*, 2009.

[29] Noa Agmon, Sarit Kraus, and Gal A. Kaminka. Uncertainties in adversarial patrol. In *Proceedings of the IJCAI 2009 workshop on Quantitative Risk Analysis for Security Applications (QRASA)*, 2009.

[30] Victor Shafran, Gal A. Kaminka, Sarit Kraus, and Alcherio Martinoli. Coverage under dead reckoning errors: A hybrid approach. In *Proceedings of the IJCAI 2009 International Workshop on Hybrid Control of Autonomous Systems (HYCAS)*, 2009.

[31] Elisheva Bonchek-Dokow, Gal A. Kaminka, and Carmel Domshlak. Distinguishing between intentional and unintentional sequences of actions. In *Proceedings of the IJCAI-09 workshop on Plan, Activity, and Intention Recognition (PAIR-09)*, 2009.

[32] Natalie Fridman, Gal A. Kaminka, and Meytal Traub. First steps towards a social comparison model of crowds. In *Proceedings of the IJCAI 2009 workshop on Social Simulation*, 2009.

[33] Gal A. Kaminka, Dan Erusalimchik, and Sarit Kraus. Adaptive multi-robot coordination: A new perspective. In *Proceedings of the AAMAS 2009 workshop on Adaptive and Learning Agents (ALA)*, 2009.

[34] Peter Stone, Gal A. Kaminka, and Jeff S. Rosenschein. Leading a best-response teammate in an ad hoc team. In *Proceedings of the AAMAS 2009 workshop on Agent-Mediated Electronic Commerce (AMEC)*, 2009. Revised version published as book chapter in AMEC2009,TADA2009—Volume 59 of Lecture Notes in Business Information Processing, Springer.

[35] Natalie Fridman and Gal A. Kaminka. Comparing human and synthetic group behaviors: A model based on social psychology. In *Proceedings of the AAMAS 2009 workshop on Multi-Agent Based Simulation (MABS)*, 2009.

[36] Adrian Perreau de Pinninck, Gery Gutnik, and Gal A. Kaminka. Reducing communication cost via overhearing. In *Proceedings of the European Workshop on Multi-Agent Systems (EUMAS-2008)*, 2008.

[37] Meir Kalech, Michael Lindner, and Gal A. Kaminka. Diagnosis of coordination faults: A matrix-based formulation. In *Proceedings of the International Workshop on Principles of Diagnosis (DX-2008)*, 2008.

[38] Zahy Bnaya, Ariel Felner, Solomon Eyal Shimony, Gal A. Kaminka, and Efi Merdler. A fresh look at sensor-based navigation, navigation with sensing costs. In *Proceedings of the First International Symposium on Search Techniques in Artificial Intelligence and Robotics*, 2008.

[39] Asaf Shiloni, Noa Agmon, and Gal A. Kaminka. On ants and elephants. In *Proceedings of the AAMAS-08 Workshop on Formal Models and Methods for Multi-Robot Systems*, 2008.

[40] Dorit Avrahami-Zilberbrand and Gal A. Kaminka. Towards dynamic tracking of multi-agents teams: An initial report. In *Proceedings of the AAAI Workshop on Plan, Activity, and Intent Recognition (PAIR-07)*, 2007.

[41] Ariel D. Procaccia, Jeff S. Rosenschein, and Gal A. Kaminka. On the robustness of preference aggregation in noisy environments. In *Proceedings of the 1st International Workshop on Computational Social Choice*, Amsterdam, December 2006.

[42] Meir Kalech, Gal A. Kaminka, Amnon Meisels, and Yehuda Elmaliach. Diagnosis of multi-robot coordination failures using distributed csp algorithms. In *Proceedings of the ECAI workshop on Model-Based Systems*, 2006. A slightly modified version appears in AAAI 2006.

[43] Dorit Avrahami-Zilberbrand and Gal A. Kaminka. Hybrid symbolic-probabilistic plan recognizer: Initial steps. In *Proceedings of the AAAI Workshop on Modeling Others from Observations (MOO-06)*, 2006.

[44] Einat Marhasev, Meirav Hadad, and Gal A. Kaminka. Non-stationary hidden semi markov models in activity recognition. In *Proceedings of the AAAI Workshop on Modeling Others from Observations (MOO-06)*, 2006.

[45] Ari Yakir, Gal A. Kaminka, and Nirom Cohen-Nov. Towards flexible task and team maintenance. In *Proceedings of the AAAI-2006 workshop on cognitive modeling*, 2006.

[46] Gal A. Kaminka and Natalie Fridman. A cognitive model of crowd behavior based on social comparison theory. In *Proceedings of the AAAI-2006 workshop on cognitive modeling*, 2006.

[47] Avi Rosenfeld, Gal A. Kaminka, and Sarit Kraus. Adaptive robotic communication using coordination costs for improved trajectory planning. In *Proceedings of the AAAI Spring Symposium on Symposium on Distributed Plan and Schedule Management*, Stanford, CA, March 2006.

[48] Meir Kalech and Gal A. Kaminka. Towards model-based diagnosis of coordination failures. In *Proceedings of the 16th International Workshop on Principles of Diagnosis (DX 2005)*, 2005. A slightly modified version appears in AAAI 2005.

[49] Dorit Avrahami-Zilberbrand, Gal A. Kaminka, and Hila Zarosim. Fast and complete plan recognition: Allowing for duration, interleaved execution, and lossy observations. In *Proceedings of the IJCAI Workshop on Modeling Others from Observations (MOO-05)*, 2005.

[50] 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.

[51] Gery Gutnik and Gal A. Kaminka. An empirical study of selective overhearing in hierarchical organizations. In *Proceedings of the IJCAI Workshop on Modeling Others from Observations (MOO-05)*, 2005.

[52] Meir Kalech and Gal A. Kaminka. Diagnosing a team of agents: Scaling-up. In *Proceedings of the 15th International Workshop on Principles of Diagnosis (DX 2004)*, 2004. A revised version appears in AAMAS 2005.

[53] Avi Rosenfeld, Gal A. Kaminka, and Sarit Kraus. Adaptive robot coordination using interference metrics. In *Proceedings of the AAMAS 2004 Workshop on Learning and Evolution in Agent-Based Systems*, 2004.

[54] Yoav Horman and Gal A. Kaminka. Improving sequence learning for modeling other agents. In *Proceedings of the AAMAS 2004 Workshop on Learning and Evolution in Agent-Based Systems*, 2004.

[55] Onn Shehory, Gal A. Kaminka, and Eran Shoham. Multi-agent coalition reformation and league ranking. In *Proceedings of the AAMAS 2004 workshop on coalitions and teams*, 2004.

[56] Avi Rosenfeld, Gal A. Kaminka, and Sarit Kraus. A study of marginal performance properties in robotic groups. In *Proceedings of the AAMAS 2004 Workshop on Coalitions and Teams*, 2004.

[57] Yehuda Elmaliach and Gal A. Kaminka. Towards single-operator control of tightly-coordinated robot teams. In *Proceedings of the AAMAS 2004 Workshop on Coalitions and Teams*, 2004.

[58] Gal A. Kaminka and Dorit Avrahami-Zilberbrand. Symbolic behavior recognition. In *Proceedings of the AAMAS Workshop on Modeling Other Agents from Observations (MOO-04)*, 2004.

[59] Gal A. Kaminka and Danny Shimoni. Infrastructure for tracking users in open collaborative applications: A preliminary report. In *Proceedings of the UM-03 Workshop on Group Modeling in Web-Based Adaptive Collaborative Applications*, 2003.

[60] Gal A. Kaminka, Jared Go, and Thuc D. Vu. Context-dependent joint-decision arbitrarion for computer games. In *Proceedings of the Agents in Computer Games Workshop*, 2002.

[61] Gal A. Kaminka. On the monitoring selectivity problem. In *The Proceedings of the 1st NASA Workshop on Radical Agent Concepts*, 2001.

[62] Jan Wendler, Gal A. Kaminka, and Manuela Veloso. Automatically improving team cooperation by applying coordination models. In *The AAAI Fall symposium on Intent Inference for Collaborative Tasks*. AAAI Press, November 2001.

[63] Gal A. Kaminka, Jan Wendler, and Galit Ronen. New challenges in multi-agent intention recognition: Extended abstract. In *The AAAI Fall symposium on Intent Inference for Collaborative Tasks*. AAAI Press, November 2001.

[64] R. Adobbati, A. N. Marshall, A. Scholer, Sheila Tejada, Gal A. Kaminka, S. Schaffer, and C. Sollitto. Gamebots: a 3d virtual world test-bed for multi-agent research. In Omer Rana and Tom Wagner, editors, *Proceedings of 2nd International Workshop on Infrastructure, MAS and MAS Scalability*, May 2001.

[65] Gal A. Kaminka, David V. Pynadath, and Milind Tambe. A fly on the wall: Monitoring agent organizations by eavesdropping. In *Working Notes of the AAAI-2000 Workshop on Agent-Oriented Information Systems (AOIS-2000)*, pages 71–77, 2000.

[66] Gal A. Kaminka, Milind Tambe, and C. M. Hopper. The role of agent modeling in agent robustness. In *AI meets the real world: Lessons learned (AIMTRW-98)*, 1998.

[67] Gal A. Kaminka and Milind Tambe. Towards social comparison for failure detection: An extended abstract. In *Proceedings of the AAAI Fall Symposium on Socially Intelligent Agents*, 1997.

[68] Gal A. Kaminka. On problems of knowledge in fuzzy control. In *Proceedings of the AAAI Fall Symposium on Frontiers in Soft Computing and Decision Systems*, 1997.

[69] Gal A. Kaminka. Real world robot navigation using fuzzy reaction and deliberation. In *Proceedings of the international conference on fuzzy logic and applications (Fuzzy-97)*, 1997.

Abstracts and Short Papers

[1] Eyal Weiss and Gal A. Kaminka. Position paper: Online modeling for offline planning. In *ICAPS-22 Workshop on Reliable Data-Driven Planning and Scheduling (RDDPS)*, 2022.

[2] Mika Barkan and Gal A. Kaminka. Towards predictive execution monitoring of bdi recipes (extended abstract). In *Proceedings of the International Joint Conference on Autonomous Agents and Multi-Agent Systems*, 2019.

[3] Alon Zanbar and Gal A. Kaminka. Is agent software more complex than other software? (extended abstract). In *Proceedings of the International Joint Conference on Autonomous Agents and Multi-Agent Systems*, 2019.

[4] Mor Vered, Ramon F. Pereira, Mauricio C. Magnaguagno, Gal A. Kaminka, and Felipe Meneguzzi. Towards online goal recognition combining goal mirroring and landmarks (extended abstract). In *Proceedings of the International Joint Conference on Autonomous Agents and Multi-Agent Systems*, pages 2112–2114, 2018.

[5] Niv Rafaeli and Gal A. Kaminka. Active perception at the architecture level (extended abstract). In *Proceedings of the International Joint Conference on Autonomous Agents and Multi-Agent Systems*, pages 1708–1710, 2017.

[6] 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.

[7] Inbal Wiesel, Gal A. Kaminka, Guy Hachmon, Noa Agmon, and Ido Bachelet. Late-breaking: First steps towards automated implementation of molecular robot tasks. In *DNA Computing (DNA-21)*, 2015.

[8] Mor Vered and Gal A. Kaminka. Towards sketch recognition by mirroring (extended abstract). In *Proceedings of the International Joint Conference on Autonomous Agents and Multi-Agent Systems*, 2015.

[9] Gal A. Kaminka, Noa Agmon, and Ido Bachelet. On the tight coupling between molecular robots and their programming languages: Initial thoughts. In *IROS 2014 workshop on Micro-Nano Robotic Swarms for Biomedical Applications*, 2014.

[10] Roi Yehoshua, Noa Agmon, and Gal A. Kaminka. Towards safest path adversarial coverage (extended abstract). In *Proceedings of the International Joint Conference on Autonomous Agents and Multi-Agent Systems*, 2014.

[11] Shahar Kosti, Gal A. Kaminka, and David Sarne. Towards effective user-guided robot search (extended abstract). In *Proceedings of the Thirteenth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-14)*, 2014.

[12] Mor Vered and Gal A. Kaminka. A computational cognitive model of mirroring processes: A position statement. In *Proceedings of the AAAI-2013 workshop on Plan, Activity and Intent Recognition (PAIR)*, 2013.

[13] Gal A. Kaminka, Meytal Traub, Yehuda Elmaliach, Dan Erusalimchik, and Alex Fridman. On the use of teamwork software for multi-robot formation control (an extended abstract). In *Proceedings of the Twelfth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-13)*, 2013.

[14] Shahar Kosti, David Sarne, and Gal A. Kaminka. Intelligent user interface for multi-robot search. In *HRI 2012 Workshop on Human-Agent-Robot-Teamwork (HART 2012)*, 2012.

[15] Gal A. Kaminka, Ari Yakir, Dan Erusalimchik, Matan Keidar, Shahar Kosti, and David Sarne. Rapid semi-autonomous multi-robot usar and indoor clearing. In *AUVSI 2012*, 2012.

[16] Natalie Fridman, Avishy Zilka, and Gal A. Kaminka. The impact of cultural differences on crowd dynamics in pedestrian and evacuation domains: An extended abstract. In *Proceedings of the Eleventh International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-12)*, 2012. Short Paper.

[17] Eran Sadeh-Or and Gal A. Kaminka. AnySURF: Flexible local features computation (extended abstract). In Francien Dechesne, Hiromitsu Hattori, Adriaan ter Mors, Jose M. Such, Danny Weyns, and Frank Dignum, editors, *Advanced Agent Technology: AAMAS 2011 Workshops. Revised Selected Papers*, volume 7068 of *Lecture Notes in Computer Science (LNCS)*, pages 270–271. Springer, 2012.

[18] Dan Erusalimchik, Gal A. Kaminka, Shai Shlomai, Dov Miron, and Sarit Kraus. Adaptive multi-robot coordination based on resource spending velocity (extended abstract). In *Proceedings of the Eighth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-09)*, 2009. Short Paper.

[19] Noa Agmon, Sarit Kraus, and Gal A. Kaminka. Uncertainties in adversarial patrol (extended abstract). In *Proceedings of the Eighth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-09)*, pages 1267–1268, 2009.

[20] Jose Antonio Iglesias, Agapito Ledezma, Araceli Sanchis, and Gal A. Kaminka. An efficient behavior classifier based on distributions of relevant events. In *Proceedings of the European Conference on Artificial Intelligence (ECAI-2008)*, 2008. Poster.

[21] Yael Termin, Gal A. Kaminka, S.R. Schrader, Sarit Semo, and Ari Z. Zivotofsky. Color perception in stereoscopic presentations with one monochrome image. In *Proceedings of ARVO Annual Meeting*, 2007. Poster.

[22] Avi Rosenfeld, Gal A. Kaminka, and Sarit Kraus. Measuring the cost of robotic communication. In *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI-05)*, pages 1734–1735, 2005. Poster.

[23] Gal A. Kaminka and Inna Frenkel. Towards flexible teamwork in behavior-based robots: Extended abstract. In *Proceedings of the Fourth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-05)*, 2005. Poster.

[24] Meir Kalech and Gal A. Kaminka. Diagnosing a team of agents: Scaling up. In *Proceedings of the Third International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-04)*, 2004. Abstract. A full version appeared in AAMAS-2005.

[25] Gery Gutnik and Gal A. Kaminka. A scalable petri-net representation of interaction protocols for overhearing. In *Proceedings of the Fourth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-05)*, 2004. Abstract. A full version appears in JAIR 2006.

[26] Avi Rosenfeld, Gal A. Kaminka, and Sarit Kraus. A study of marginal performance properties in robotic groups. In *Proceedings of the Fourth International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-05)*, 2004. Abstract.

[27] Patrick Riley, Manuela Veloso, and Gal A. Kaminka. Towards any-team coaching in adversarial domains. In *Proceedings of the First International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-02)*, pages 1145–1146, 2002. Short Paper.

[28] Gal A. Kaminka. Execution monitoring and diagnosis in multi-agent environments. In *Proceedings of the Sixteenth National Conference on Artificial Intelligence (AAAI-99)*, 1999. Doctoral Consortium Abstract.

[29] Gal A. Kaminka and Milind Tambe. Agent component synergy: Social comparison. In *Proceedings of the Second International Conference on Autonomous Agents (Agents-98)*, 1998. Poster.

[30] Gal A. Kaminka and Milind Tambe. Social comparison for failure detection and recovery. In *Proceedings of the Fourteenth National Conference on Artificial Intelligence (AAAI-97)*, 1997. Student Poster.

[31] Weimin Shen, Jafar Adibi, Bonghan Cho, Gal Kaminka, Jihie Kim, Behnam Salemi, and Sheila Tejada. A robot demo description: See if YODA likes you? In *Proceedings of the Conference Companion to the First International Conference on Autonomous Agents*, 1997. Robot Demonstration Abstract.

[32] Weimin Shen, Jafar Adibi, Bonghan Cho, Gal A. Kaminka, Jihie Kim, Behnam Salemi, and Sheila Tejada. YODA: The young observant discovery agents. In *Proceedings of the Thirteenth National Conference on Artificial Intelligence (AAAI-96)*, 1996. Robot Competition Abstract.

[33] Gal A. Kaminka and Milind Tambe. The role of functional representation in building autonomous intelligent agents for dynamic environments. In *Proceedings of the AAAI-96 workshop on modeling and reasoning with function*, 1996. Poster.

Technical Reports and Other Unrefereed Publications

[1] Teddy Lazebnik, Hanna Weitman, and Gal A. Kaminka. Graph-based pharmacokinetic-pharmadynamic modeling for large scale systems: Nanoparticles case. Technical Report 2022.07.12.499805, bioRxiv, 2022.

[2] Teddy Lazebnik, Hanna Weitman, and Gal A. Kaminka. Generic purpose pharmacokinetics-pharmacodynamics mathematical model for nanomedicine targeted drug delivery: Mouse model. Technical Report 2022.07.13.499855, bioRxiv, 2022.

[3] Teddy Lazebnik, Hanna Weitman, Yoav Goldberg, and Gal A. Kaminka. Rivendell: Project-based academic search engine. Technical Report 10.48550/ARXIV.2206.12926, arXiv, 2022.

[4] Gal A. Kaminka. Rethinking computational investments in planning and execution. Technical Report Dagstuhl Seminar 17371, Dagstuhl Seminar on Planning and Robotics, Eds. M. Ghallab, N. Hawes, D. Magazzeni, B. C. Williams, A. Orlandini, 2017.

[5] Roi Yehoshua, Noa Agmon, and Gal A. Kaminka. Safest path adversarial coverage: Proof and algorithm details. Technical Report SMART 2014/01, Bar Ilan University, Computer Science Department, SMART Group, 2014.

[6] Natalie Fridman, Avishy Zilka, and Gal A. Kaminka. The impact of cultural differences on crowd dynamics in pedestrian and evacuation domains. Technical Report MAVERICK 2011/01, Bar Ilan University, Computer Science Department, MAVERICK Group, available at http://www.cs.biu.ac.il/~galk/Publications/, 2011.

[7] Matan Keidar, Inbar Aharon, Danielle Barda, Or Kamara, Alon Levy, Eran Polosetski, Dikla Ramati, Lior Shlomov, Jeremy Shoshan, Ari Yakir, Avishay Zilka, Gal A. Kaminka, and Eli Kolberg. Robocup 2010 standard platform league team burst description. Technical report, Bar Ilan University, Computer Science Department, MAVERICK Group, 2010.

[8] Dan Erusalimchik and Gal A. Kaminka. Towards adaptive multi-robot coordination based on resource expenditure velocity: Extended version. Technical Report MAVERICK 2008/02, Bar Ilan University, Computer Science Department, MAVERICK Group, available at http://www.cs.biu.ac.il/~galk/Publications/, 2008.

[9] Yehuda Elmaliach, Asaf Shiloni, and Gal A. Kaminka. Frequency-based multi-robot fence patrolling. Technical Report MAVERICK 2008/01, Bar Ilan University, Computer Science Department, MAVERICK Group, 2008.

[10] Gal A. Kaminka, Efi Merdler, and Dorit Avrahami. Advanced unsupervised spatial learning algorithm for the avnet37 consortium: Final report (in hebrew). Technical Report MAVERICK 2006/01, Bar Ilan University, Computer Science Department, MAVERICK Group, 2006.

[11] Gal A. Kaminka and Michael Bowling. Towards robust teams with many agents. Technical Report CMU-CS-01-159, Carnegie Mellon University, 2001.

[12] Gal A. Kaminka. The multi-agent systems evaluation repository. http://www.cs.biu.ac.il/~galk/Eval/, 1998.

[13] MAVERICK. The MAVERICK Group movies page, Computer Science department, Bar Ilan University; last checked: Feb 24, 2008. http://www.cs.biu.ac.il/~maverick/Movies/, 2005.

Media Coverage

[1] James Dinneen. Solar panel cleaning robot can be dropped off and picked up by drone. *New Scientist*, Jan 27 2023.

[2] Nevo Trabelsi. Robots to do our shopping? the model presented by musk did not impress the industry (hebrew). *Globes*, Oct 2 2022.

[3] Ofir Artzi. Dance of the machine: Should people be concerned about robots? (hebrew). MAKO Web Site. Interview of BISFAI panelists on sci-fi and AI. Available online at: https://www.mako.co.il/study-career-open-days/Article-296950bd83ada61027.htm?Partner=searchResults.

[4] Artificial intelligence and robotics aid israeli security. The Jewish Star, Feb. 28 2018.

[5] AI good or bad – Elon Musk versus Mark Zukerberg. Interview in "Gam Ken Tarbut", July 27 2017. Available online at (starting minute 10:46): http://www.kan.org.il/Podcast/item.aspx?pid=8504.

[6] Asimov's imagination: A dramatization and literary discussion of isaac asimov's vision of robots, September 20 2016. Interview on the reality of robotics versus Asimov's vision.

[7] Programmable nano-robots. An interview on the *London at Kirshenbaum* TV talk show (Hebrew), August 23 2016. Available online at: http://10tv.nana10.co.il/Category/?CategoryID=600262.

[8] On the AlphaGo computer beating go master lee sedol. Galei Tzhal Radio, March 13 2016.

[9] Hanan Greenwood. It will happen in the near future (Hebrew). *Makor Rishon Motzash (weekend section)*, page 50, Dec 12 2015.

[10] On robots and artificial intelligence. Galei Tzhal Radio, Part 1: Nov 22; Part 2: Nov 30 2015.

[11] An open letter on autonomous weapons. Reshet Bet Radio, July 29 2015.

[12] David Shamah. Israel's 'robot revolutionary' wins top prize. *The Times of Israel*, December 27 2013. Available online at: http://www.timesofisrael.com/israels-robot-revolutionary-wins-top-prize/.

[13] An hour with professor Gal Kaminka. Galei Tzahal Radio, October 13 2013.

[14] Ayelett Shani (photography: Gali Eitan). The robot is a friend (hebrew). *Haaretz magazine*, August 29 2013. Available online at: http://www.haaretz.co.il/magazine/ayelet-shani/1.2110002/.

[15] Ami Rojkes Domba. Moving to open code in robotics (hebrew). *Israel Defense*, June 24 2013. Available online at: http://www.israeldefense.co.il/?CategoryID=760&ArticleID=4720.

[16] The robots are here (hebrew). A TV interview on Channel 1's "Erev Hadash" (Hebrew), March 14 2013.

[17] Avi Belizovsky. From saving UAVs to saving lives (hebrew). *Haarez online (science channel)*, April 24 2012. Available online at: http://bar-ilan.haaretz.co.il/?p=393&s=1717.

[18] A professor without matriculation exams... and with robots (hebrew). Reshet Bet Radio(IBA), June 13 2011. Available online at: http://www.iba.org.il/?autoStartOnFirstElement=true&defaultSearchTerm=7469818&filterType=CM.

[19] Gabi Gazit. The university that is open to all. A radio interview on 103fm, "Radio Le'lo Hafsaka" (Hebrew), May 31 2011. Available online at: http://www.103.fm/programs/Media.aspx?ZrqvnVq=FFKDEJ&c41t4nzVQ=EE.

[20] Karin Kloosterman. Surgery? border patrol? israeli robots do it all. Israel21c.org, March 17 2011. Available online at: http://israel21c.org/health/surgery-border-patrol-israeli-robots-can-do-it-all-2/.

[21] Karin Kloosterman. Forget the world cup, think soccer robotics. Israel21c.org, July 8 2010. Available online at: http://israel21c.org/culture/forget-the-world-cup-think-soccer-robotics/.

[22] Achiya Cohen. Robots on the grass (Hebrew). *Makor Rishon (sports section)*, page 26, July 5 2009.

[23] A robot instead of a human being? An interview on the *London at Kirshenbaum* TV talk show (Hebrew), July 30 2009. Available online at: http://lnk.nana10.co.il/Article/?ArticleID=654111.

[24] Robots in the fight against terrorism. A part of a televised 1-hour meeting with Israel president Shimon Peres (Hebrew), June 2009. Available online at: http://www.iba.org.il/vod/player.aspx?scode=2179256&t=&cat=.

[25] Dudi Goldman. Israel versus Iran on the field in Austria: Two robot soccer players, and a robot goalie (Hebrew). *Yediot Acharonot*, June 28 2009.

[26] Ofri Ilani. IDF's new warrior: A robot cat (in hebrew). *Ha'aretz Online*, November 20 2008. Available online at: http://www.haaretz.co.il/hasite/spages/1039188.html.

[27] Nir Dvori. Coordinating robots (Hebrew). Channel 22 News (part of a longer item on the 2nd Israeli Conference on Robotics, of which I was program chair), November 20 2008. Available online at: http://www.mako.co.il/news/channel2/Channel-2-Newscast/Articles/itemId=e4dd190e56bbd110VgnVCM100000290c10acRCRD.

[28] Israel Binyamini. On your walls I put robot guards (hebrew). *Galileo*, 121:44–51, September 2008.

[29] Yotam Feldman. The robots that will replace you in guard duty (hebrew). *The Marker*, July 11 2008. Available online at: http://www.themarker.com/technation/it/1.1757091.

[30] Yotam Feldman. From vacuum cleaners to electronic soldiers in the IDF (hebrew). *Ha'aretz*, July 9 2008. Available online at: http://www.haaretz.co.il/captain/gadget/1.1336581.

[31] Yotam Feldman. The transformers. *Ha'aretz Magazine*, pages 20–22, July 11 2008. Available online at: http://www.cs.biu.ac.il/~galk/file_biu_08_07_20_10_00.pdf.

[32] Judy Siegel-Itzkovich. Bar-Ilan researchers develop mini-robots to bolster IDF patrols. *The Jerusalem Post*, June 5 2008. Available online at: http://www.jpost.com/servlet/Satellite?cid=1212659671909&pagename=JPost

[33] Yisrael Binyamini. The future: Social robots? (hebrew). *Galileo*, January 9 2007. Available online at: http://www.ynet.co.il/articles/0,7340,L-3349284,00.html.

[34] Dudi Goldman. Private robot, you have guard duty! (Hebrew). *24 Minutes*, page 4, June 5 2008.

[35] Barbara Opall-Rome. Red forces get smart: Advanced AI adds unpredictability to simulated terrorists. *Training and Simulation Journal (TSJ*, page 24, December 24 2007. Available online at: http://www.tsjonline.com/story.php?F=3116545.

[36] Barbara Opall-Rome. Smart entities program brings 'human' element to counterterror training. *Defense News*, page 24, November 5 2007. Available online at: http://www.defensenews.com/story.php?F=3143987&C=thisweek.

[37] YNet News Service. The future: Social robots? (Hebrew). http://www.ynet.co.il/articles/0,7340,L-3349284,00.html, January 9 2007.

[38] Zohar Guri. Groups of robots in action (Hebrew). *Rosh Gadol*, 2006.

[39] Tami Pollack. Robots: The true story (Hebrew). *Makor Rishon—Children's Section*, February 2006.

[40] YNet News Service. Wanted: Young scientists (Hebrew). http://www.ynet.co.il/articles/0,7340,L-3144236,00.html, September 19 2005.

[41] Channel 8 (The Cable Science Channel). Coordinating robots (Hebrew), February 15 2005.

[42] PrimeTime. Social intelligence and robots (Hebrew). Yes+ TV Channel, September 10 2003.

[43] SAfm Sport. Live radio interview. SABC Radio—Johannesburg, South Africa, November 10 2001.

[44] Duncan Graham-Rowe. Managers face reprogramming after defeat. *New Scientist*, August 21 2001.