

CURRICULUM VITAE AND LIST OF PUBLICATIONS 11/2024

Raz Lin, PhD

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Education

- Ph.D., Computer Science, Bar-Ilan University** **2004 – 2007**
Ph.D. in the domain of artificial intelligence. Focused on cooperation in multi-agents' environments and human-agent and agent-agent negotiation.
- MSc, Computer Science, Bar-Ilan University** **2001 – 2002**
Computer Science, major in artificial intelligence. Graduated magna cum laude.
- BSc, Math and Computer Science, Bar-Ilan University** **1999 – 2001**
Graduated summa cum laude.

Academic Ranks and Tenure in Institutes of Higher Education

- Senior Lecturer - College of Management – Academic Studies** **2024 – Present**
- External Academic Staff – Reichman University** **2024 – Present**

Professional Activities

Research Fellow, 2008-2010 Department of Computer Science, Bar-Ilan University, Ramat-Gan, Israel. Hosted by Prof. Sarit Kraus.

Finalist for Best Paper awards

1. Raz Lin, Sarit Kraus, Jonathan Wilkenfeld and James Barry. An Automated Agent for Bilateral Negotiation with Bounded Rational Agents with Incomplete Information. Proc. of the 17th European Conference on Artificial Intelligence (ECAI), p. 270-274. 2006. Riva del Garda, Italy, August 2006.
2. Raz Lin, Yinon Oshrat and Sarit Kraus. Investigating the Benefits of Automated Negotiations in Enhancing People's Negotiation Skills. In Proceedings of the Eighth International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-2009), p. 345-352, Budapest, Hungary, May 2009.

Service

Senior Program Committee member

IJCAI (2021, 2019)

Program Committee member

AAMAS (2020, 2019, 2018, 2017, 2015, 2014, 2013, 2012, 2010, 2009, 2007, 2006)

IJCAI (2022, 2021, 2019, 2015)

AAAI (2019, 2015, 2008)

ECAI (2014)

HuCom (2010)

EC (2007)

ICCCD (2007)

IAT (2007)

ACAN (2015, 2014, 2013, 2012)

CIA (2008)

CogSci (2009)

GTSSH (2012)

AARM (2011)

Reviewing Activities

Journals: Journal of Autonomous Agents and Multi-agent Systems (JAAMAS),
Journal of Artificial Intelligence Research (JAIR), AI Communications,
Knowledge and Information Systems (KAIS).

Journal Articles:

1. Meirav Hadad, Sarit Kraus, Yakov Gal, Raz Lin. Temporal Reasoning for a Collaborative Planning Agent in a Dynamic Environment. *Annals of Mathematics and Artificial Intelligence* 37(4): 331-379 (2003).
2. Raz Lin, Sarit Kraus and Jeffrey Tew. OSGS - A Personalized Online Store for E-commerce Environments. *Information Retrieval Journal*, 7(3-4):369-394 (2004).
3. Raz Lin, Sarit Kraus, Jonathan Wilkenfeld and James Barry. Negotiating with Bounded Rational Agents in Environments with Incomplete Information Using an Automated Agent. *Artificial Intelligence journal*, 172(6-7):823-851, 2008.
4. Sarit Kraus, Raz Lin and Yuval Shavitt. On Self-Interested Agents in Vehicular Networks with Car-to-Car Gossiping. *IEEE Transactions on Vehicular Technology*, 57(6):3319-3332, 2008.
5. Raz Lin, Sarit Kraus. Can Automated Agents Proficiently Negotiate with Humans? *Communications of the ACM*, 53(1):78-88, January 2010.
6. Raz Lin, Yehoshua Gev and Sarit Kraus. Bridging the Gap: Face-to-Face Negotiations with Automated Mediator. *IEEE Intelligent Systems*, 26(6):40-47, 2011.
7. Michal Chalamish, David Sarne and Raz Lin. The Effectiveness of Peer-Designed Agents in Agent-Based Simulations. *Multiagent and Grid Systems*, 8(4):349-372, 2012.
8. Tim Baarslag, Katsuhide Fujita, Enrico H. Gerding, Koen Hindriks, Takayuki Ito, Nicholas R. Jennings, Catholijn Jonker, Sarit Kraus, Raz Lin, Valentin Robu and Colin R. Williams. Evaluating Practical Negotiating Agents: Results and Analysis

- of the 2011 International Competition. *Artificial Intelligence journal*, 198:73-103, May 2013.
9. Michal Chalamish, David Sarne and Raz Lin. Enhancing Parking Simulations using Peer Designed Agents. *IEEE Transactions on Intelligent Transportation Systems*, 14(1):492-498, 2013.
 10. Raz Lin, Sarit Kraus, Tim Baarslag, Dmytro Tykhonov, Koen Hindriks and Catholijn Jonker. GENIUS: An Integrated Environment for Supporting the Design of Generic Automated Negotiators. *Computational Intelligence*, 30(1):48-70, February 2014.
 11. Raz Lin, Ya'akov (Kobi) Gal, Sarit Kraus and Yaniv Mazliah. Training with Automated Agent Improves People's Behavior in Negotiation and Coordination Tasks. *Decision Support Systems journal*, 60:1-9, April 2014.
 12. Eliahu Khalastchi, Meir Kalech, Gal A. Kaminka and Raz Lin. Online Data Driven Anomaly Detection in Autonomous Robots. *Knowledge and Information Systems (KAIS)*, 43(3):657-688, 2015.

Papers in Refereed Conferences:

1. Anat Hashavit, Hongning Wang, Raz Lin, Tamar Stern, Sarit Kraus: Understanding and Mitigating Bias in Online Health Search. *SIGIR 2021*: 265-274
2. Moshe Mash, Raz Lin and David Sarne. Peer-Design Agents for Reliably Evaluating Distribution of Outcomes in Environments Involving People. *Proc. of the 13th International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, p. 949-956. May 2014. Paris, France.
3. Asaf Frieder, Raz Lin and Sarit Kraus. Agent-human Coordination with Communication Costs under Uncertainty. In *Proceedings of the Twenty-Sixth AAAI Conference on Artificial Intelligence (AAAI-12)*, p. 1557-1563. Toronto, Canada, July 2012. (Also presented at HAIDM Workshop)
4. Raz Lin, Noa Agmon, Sarit Kraus, Samuel Barrett and Peter Stone. Comparing Agents' Success against People in Security Domains. In *Proceedings of the Twenty-Fifth AAAI Conference on Artificial Intelligence (AAAI-11)*, p. 809-814. San Francisco USA, August 2011.
5. Eliyahu Khalastchi, Gal Kaminka, Meir Kalech and Raz Lin. Online Anomaly Detection in Unmanned Vehicles. In *Proceedings of the Tenth International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-2011)*, p. 115-122, Taipei, Taiwan, May 2011.
6. Raz Lin, Sarit Kraus, Yinon Oshrat and Ya'akov (Kobi) Gal. Facilitating the Evaluation of Automated Negotiators using Peer Designed Agents. In *Proceedings of the Twenty-Fourth AAAI Conference on Artificial Intelligence (AAAI-10)*, p. 817-822. Atlanta, Georgia, USA, July 2010.
7. Raz Lin, Eliyahu Khalastchi and Gal Kaminka. Detecting Anomalies in Unmanned Vehicles Using the Mahalanobis Distance. In *Proceedings of the 2010 IEEE International Conference on Robotics and Automation (ICRA2010)*, p. 3038-3044. Anchorage, Alaska, May 2010.
8. Yinon Oshrat, Raz Lin and Sarit Kraus. Facing the Challenge of Human-Agent Negotiations via Effective General Opponent Modeling. In *Proceedings of the Eighth International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-2009)*, p. 377-384, Budapest, Hungary, May 2009.

9. Raz Lin, Yinon Oshrat and Sarit Kraus. Investigating the Benefits of Automated Negotiations in Enhancing People's Negotiation Skills. In Proceedings of the Eighth International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-2009), p. 345-352, Budapest, Hungary, May 2009.
10. Raz Lin, Sarit Kraus and Jonathan Wilkenfeld. GPNEG: General Purpose Negotiation Training Tool. The First International Conference on Computational Cultural Dynamics (ICCCD 2007), August 2007, College Park, Maryland.
11. Raz Lin, Sarit Kraus and Yuval Shavitt. On the Benefits of Cheating by Self-Interested Agents in Vehicular Networks. Proc. of the 6th International Conference on Autonomous Agents and Multiagent Systems (AAMAS), p. 315-322. May 2007. Honolulu, Hawaii.
12. Raz Lin, Daphna Dor-Shifer, Saar Rosenberg, Sarit Kraus and David Sarne. Towards the Fourth Generation of Cellular Networks: Improving Performance Using Distributed Negotiation. Proceedings of 9th ACM/IEEE International Symposium on Modeling Analysis and Simulation of Wireless and Mobile Systems (MSWiM 2006), p. 347-356. 2006. Torremolinos, Malaga, Spain, October 2006.
13. Raz Lin, Sarit Kraus, Jonathan Wilkenfeld and James Barry. An Automated Agent for Bilateral Negotiation with Bounded Rational Agents with Incomplete Information. Proc. of the 17th European Conference on Artificial Intelligence (ECAI), p. 270-274. 2006. Riva del Garda, Italy, August 2006.
14. Raz Lin, Daphna Dor-Shifer, Sarit Kraus and David Sarne. Local Negotiation in Cellular Networks: From Theory to Practice. Proc. of the Eighteenth Innovative Applications of Artificial Intelligence Conference (IAAI). 2006. Boston, Massachusetts, USA, July 2006.
15. Raz Lin, Sarit Kraus, Jeffrey Tew. Attaining Fast and Successful Searches in E-commerce Environments. Proc. of the 25th European Conference on Information Retrieval Research (ECIR) 2003: 120-134. Pisa, Italy, April 2003.

Chapters in Refereed Books:

1. Efrat Manistersky, Raz Lin and Sarit Kraus. The Development of the Strategic Behavior of Peer Designed Agents. In Language, Culture, Computation. Computing - Theory and Technology: Choueka Festschrift, Part I. Volume 8001 of Lecture Notes in Computer Science. Edited by N. Dershowitz and E. Nissan. Springer-Verlag. pp. 180-196. 2014.
2. Noam Hazon, Raz Lin and Sarit Kraus. How to Change a Group's Collective Decision? In Proceedings of the 23rd International Joint Conference on Artificial Intelligence (IJCAI 2013), p. 198-205. Beijing, China, August 2013.
3. Katsuhide Fujita, Takayuki Ito, Tim Baarslag, Koen Hindriks, Catholijn Jonker, Sarit Kraus and Raz Lin. The Second Automated Negotiating Agents Competition (ANAC 2011). In Complex Automated Negotiations: Theories, Models, and Software Competitions. Edited by T. Ito, M. Zhang, V. Robu and T. Matsuo, Volume 435 of Series on Studies in Computational Intelligence. Springer-Verlag. pp. 183-197. 2013.
4. Tim Baarslag, Koen Hindriks, Catholijn Jonker, Sarit Kraus and Raz Lin. The First Automated Negotiating Agents Competition (ANAC 2010). In New Trends in Agent-based Complex Automated Negotiations. Edited by T. Ito, M. Zhang, V.

- Robu, S. Fatima and T. Matsuo, Volume 383 of Series on Studies of Computational Intelligence. Springer-Verlag. pp. 113-135. 2012.
5. Raz Lin, Yinon Oshrat and Sarit Kraus. Automated Agents that Proficiently Negotiate with People: Can We Keep People out of the Evaluation Loop? In *New Trends in Agent-based Complex Automated Negotiations*. Edited by T. Ito, M. Zhang, V. Robu, S. Fatima and T. Matsuo, Volume 383 of Series on Studies of Computational Intelligence. Springer-Verlag. pp. 57-80. 2012.
 6. Raz Lin and Sarit Kraus. From Research to Practice: Automated Negotiations with People. In *Ubiquitous Display Environments*. Edited by Antonio Krüger and Tsvi Kuflik. Volume 7 of Series on Series on Cognitive Technologies, Springer-Verlag. pp. 195-212. 2012.
 7. Raz Lin, Sarit Kraus, Dmytro Tykhonov, Koen Hindriks and Catholijn M. Jonker. Supporting the Design of General Automated Negotiators. In *Innovations in Agent-Based Complex Automated Negotiations*. Edited by T. Ito, M. Zhang, V. Robu, S. Fatima, T. Matsuo and H. Yamaki, Volume 319 of Studies in Computational Intelligence. Springer Berlin / Heidelberg, pp. 69-87. 2011.
 8. Shay Raz, Raz Lin and Onn Shehory. Collaborative Load-Balancing in Storage Networks Using Agent Negotiation. In Matthias Klusch, Michal Pechoucek and Axel Polleres (Eds.), *Cooperative Information Agents XII (CIA'08)*, Lecture Notes in Artificial Intelligence 5180, pp. 306-320, September 2008, Prague, Czech Republic.

Papers in Refereed Workshops, Posters and Short papers:

1. Asaf Frieder, Raz Lin and Sarit Kraus. Agent-human Coordination with Communication Costs under Uncertainty.(Extended Abstract). Proc. of AAMAS 2012.
2. Raz Lin, Yehoshua Gev and Sarit Kraus. AniMed*: An Automated Animated Mediator for Facilitating Negotiation with People. Demo Session. The Ninth European Workshop on Multi-agent Systems (EUMAS'11). Maastricht, The Netherlands, November 2011.
3. Raz Lin, Yehoshua Gev and Sarit Kraus. Facilitating Better Negotiation Solutions using AniMed. The Fourth International Workshop on Agent-based Complex Automated Negotiations (ACAN'11). Taipei, Taiwan, May 2011.
4. Raz Lin, Yinon Oshrat and Sarit Kraus. Automated Agents that Proficiently Negotiate with People: Can We Keep People out of the Evaluation Loop? In *Proceedings of the Third International Workshop on Agent-based Complex Automated Negotiations (ACAN'10)*, p. 47-53. Toronto, Canada, May 2010.
5. Raz Lin, Eliyahu Khalastchi and Gal Kaminka. Detecting Anomalies in Unmanned Vehicles Using the Mahalanobis Distance. In *Proceedings of the International Workshop on Agents and Data Mining Interaction (ADMI'10)*, p. 1-14. Toronto, Canada, May 2010.
6. Raz Lin and Sarit Kraus. Designing Automated Agents Capable of Efficiently Negotiating with People - Overcoming the Challenge. In *Proceedings of the 7th European Workshop on Multi-Agent Systems (EUMAS'09)*. Ayia Napa, Cyprus, December 2009.
7. Raz Lin, Eliyahu Khalastchi and Gal Kaminka. Detecting Anomalies in Unmanned Vehicles Using the Mahalanobis Distance. In *Proceedings of the 7th European*

- Workshop on Multi-Agent Systems (EUMAS'09). Ayia Napa, Cyprus, December 2009.
8. Raz Lin, Sarit Kraus, Dmytro Tykhonov, Koen Hindriks and Catholijn M. Jonker. Supporting the Design of General Automated Negotiators. In Proceedings of the Second International Workshop on Agent-based Complex Automated Negotiations (ACAN'09). Budapest, Hungary, May 2009.
 9. Koen Hindriks, Catholijn M. Jonker, Sarit Kraus, Raz Lin and Dmytro Tykhonov. GENIUS - Negotiation Environment for Heterogeneous Agents. In Proceedings of the Eighth International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-2009). Budapest, Hungary, May 2009. (Demo Session).
 10. Efrat Manistersky, Raz Lin and Sarit Kraus. Understanding How People Design Trading Agents over Time. In Proceedings of the Seventh International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-2008). Estoril, Portugal, May 2008. (short paper).
 11. Raz Lin, Sarit Kraus and Jeffrey Tew. GMSIM - Implementing System for Guided Search in an E-Commerce Environment. Recommender Systems Workshop - Demo Session. BISFAI-05 (2005).

Citation Index

H-index (ISI / Google Scholar): 21

Total number of citations of all articles (ISI / Google Scholar): 2,152

Patents:

US 9218232, 2011. **Anomaly Detection Methods, Devices and Systems**
Inventors: Eliyahu Khalastchi, Gal Kaminka, Raz Lin, Meir Kalech

Professional (non-academic) Experience

Director of C4I Branch (IAF – Israeli Air Force)

2022 – 2024

- Lead the architecture of cross-connectivity for the IAF, driving alignment and execution for multiple partner orgs.
- Been the IAF's Chief Technical Authority for cyber-defense, big-data, AI.
- Drove new strategy for enrolling IAF to Cloud Providers (GCP, AWS), while mitigating complex privacy and security needs.
- Identified and pursued business opportunities for C4I and IT projects, driving them towards operational implementation.
- Manage business processes and technical solutions, resolving architecture needs and bottlenecks, project timelines, and priorities across the board.

Director of Avionics Branch (IAF)

2019 – 2022

- Set long term strategy for integration of Israeli unique capabilities for manned aircraft and the network-centric eco-system. Extending solution to support backward compatibility for Legacy fighter jets.
- Led cross teams System Engineers and TPMs across multiple sites (US/IL), steering the design and development of software for airborne platforms.
- Responsibility for certification process for aircraft technicians across IDF.

Director of Engineering - R&D division (Ofek, IAF)

2017 – 2019

- Managed an algorithm research & development unit (~100 engineers and system engineers).
- Focused on algorithms for motion, tracking and fusion systems. Resulted deliveries to production real time systems, under imminent needs.
- Employing methodology change in the division (based on agile, adjusted to facilitate longer term research).
- Mentored team leaders and group managers, while empowering them to excellence and supported growth to meet promotion bars (resulting in thus promotions).

Head of Section: Generic Avionics and Network Applications (IAF) 2015 – 2017

- Led a team of system engineers and project managers, spearheading the development of innovative open avionics environment standards and capabilities for airborne military platforms.
- Drove the implementation of IMA ARINC653 Architecture and RTI DDS on various Real-Time OS platforms, enhancing avionics capabilities.

Projects Manager, Israeli Air Force (Ofek, IAF)

2006–2015

- Drove the analysis, development, support, and maintenance of complex software products, leading multiple real-time and online, safety-critical software projects.
- Led a team of 25 programmers, team leaders, software engineers, algorithmists, and QA team members.

- Developed state-of-the-art award-winning systems with complex integration and delivery constraints, earning recognition for technological excellence.
- Pioneered a hackathon initiative to showcase new opportunities to management and stakeholders, resulting in widespread acceptance and implementation.
- Received the Chief of Staff's Honor for Outstanding Achievement in the Technological Field, acknowledging contributions to a cutting-edge project that demonstrated technological excellence and innovation.

Software Engineer/Team Lead (Ofek, IAF)

2003-2006

- Software Engineer, Team leader (10 people)

Licenses & certifications

Executive Course: **Directors and Officers Holders** - Reichman University- FORE
Executive Education (Jul 2021)

Honors & awards

Two times Commander of the Airforce Excellence Award.
Chief of the General Staff's Honor for Outstanding in the Technological Field.