

# Multiagent Systems, and the Search for Appropriate Foundations: A Personal Journey and Retrospective

Jeffrey S. Rosenschein

The Rachel and Selim Benin School of Computer Science and Engineering  
The Hebrew University of Jerusalem  
Jerusalem, Israel  
jeff@cs.huji.ac.il

## ABSTRACT

Research is a highly personal endeavor shaped by a researcher's own experience, personality, inclinations, and memory. This talk provides a personal interpretation of my 43 years as a researcher in the multiagent systems community, from my first published paper in AAAI'82 to the present. By walking through a timeline of research topics and results, I will highlight connections and research emphases through the decades.

Along the way, I will provide a subjective take on related topics, including tips for early researchers, guiding principles for advisors, AI systems' historical over-emphasis on (narrowly defined) performance, theory vs. practice, and the importance of finding a (scientific) community.

## KEYWORDS

Multiagent Systems, Game Theory, Mechanism Design, Negotiation, Coalitions, Computational Social Choice, Voting, Cooperation, Competition, Deception

## ACM Reference Format:

Jeffrey S. Rosenschein. 2025. Multiagent Systems, and the Search for Appropriate Foundations: A Personal Journey and Retrospective. In *Proc. of the 24th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2025)*, Detroit, Michigan, USA, May 19 – 23, 2025, IFAAMAS, 1 page.

## BIOGRAPHY

Jeffrey S. Rosenschein is the Samuel and Will Strauss Professor of Computer Science in the School of Engineering and Computer Science at the Hebrew University of Jerusalem, and served as Head of the School from 2011 to 2014.

Prof. Rosenschein's research has explored issues of cooperation and competition among agents, seeking to establish appropriate foundations for machine-machine and machine-human interaction. He has made contributions to the use of game theory, mechanism design, and computational social choice within multiagent systems, and more broadly within artificial intelligence as a whole.

Rosenschein's work expanded the focus of Distributed Artificial Intelligence to include interactions among multiple self-interested agents, and was among the initiators of the field of computational

social choice, pioneering, along with students and colleagues, elections and approximation, computational learning, and susceptibility to strategic voting. He also pioneered research on coalitions in multiagent systems and was among the first to model computational approaches to cooperative game theory.

Rosenschein received his undergraduate degree in Applied Mathematics from Harvard University (1979), and his masters degree (1982) and PhD (1986) in Computer Science from Stanford University. He has published widely, including co-authoring the book "Rules of Encounter", MIT Press, 1994, which strongly influenced



Photo Credit: Elianna Rosenschein

the adoption of game-theoretic techniques within artificial intelligence. He is a Fellow of the Association for Computing Machinery (ACM), the Association for the Advancement of Artificial Intelligence (AAAI), the European Association for Artificial Intelligence (EurAI), and is the recipient of the 2013 ACM/SIGART Autonomous Agents Research Award (now ACM/SIGAI). He was co-editor-in-chief of the Journal of Autonomous Agents and Multiagent Systems from 2008 to 2014. He served as General Conference Chair of the combined 27th International Joint Conference on Artificial Intelligence and 23rd European Conference on Artificial Intelligence (IJCAI/ECAI 2018). Prof. Rosenschein also co-founded Accent Software (went public on NASDAQ in 1995) and AgentSoft (purchased by Genesys Telecommunications in 1998).

## ACKNOWLEDGMENTS

Thanks to my former and current PhD students, Gilad Zlotkin, Eithan Ephrati, Claudia Goldman, Zinovi Rabinovich, Yoram Bachrach, Ariel Procaccia, Inon Zuckerman, Aviv Zohar, Michael Zuckerman, Reshef Meir, Omer Lev, Yoad Lewenberg, and Nitay Alon, masters students and postdocs, and to my colleagues in the Multiagent Systems community who have made this such an interesting journey.



This work is licensed under a Creative Commons Attribution International 4.0 License.

*Proc. of the 24th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2025)*, Y. Vorobeychik, S. Das, A. NowAI (eds.), May 19 – 23, 2025, Detroit, Michigan, USA. © 2025 International Foundation for Autonomous Agents and Multiagent Systems ([www.ifaamas.org](http://www.ifaamas.org)).