

Mustafa Mert Çelikok

Assistant Professor, Multi-Agent Reinforcement Learning

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🔗 Google Scholar

Summary

Assistant Professor at the University of Southern Denmark, working on multi-agent reinforcement learning, cooperative AI, and Bayesian/model-based approaches to human-AI interaction. PhD from Aalto University (2023), postdoc at TU Delft (2023-2025).

Education

PhD	Aalto University , Computer Science	Finland
	- Thesis: Model-based Multi-agent Reinforcement Learning for AI Assistants - Advisor: Professor Samuel Kaski - Opponent: Professor Matthew A. Taylor (University of Alberta) - Nominated for the Dean's Award	2019 – 2023
MSc	Aalto University , Machine Learning, Data Science and Artificial Intelligence (MACADAMIA)	Finland
	Completed with honours (highest distinction)	2016 – 2018
BEng	Selçuk University , Computer Engineering	Turkey
	First-class honours (highest distinction)	2011 – 2015

Experience

University of Southern Denmark, Department of Mathematics and Computer Science, Data Science Section , Tenure-track Assistant Professor	Denmark
	2025 – present
	1 year
Delft University of Technology , Postdoctoral Researcher	The Netherlands
Project on investigating advanced multi-agent reinforcement learning techniques for collaborative AI systems, funded for 3 years as part of the Dutch Hybrid Intelligence Centre.	2023 – 2025
	2 years
Dutch National Research Institute for Mathematics and Computer Science (CWI) , PhD Research Intern	The Netherlands
Highly selective doctoral internship programme with stipend. Worked with Professor Wouter Koolen on the sample-complexity of Monte Carlo Tree Search.	Jan 2023 – Apr 2023
	4 months
Danish Pioneer Centre for AI Programme on Learning and Optimal Control in Dynamical Systems , Co-director	2026 – 2028
	2 years
Hybrid Intelligence Centre Reinforcement Learning SIG , Co-leader	2023 – 2025
	2 years
AAAI Bridge Workshop: Collaborative AI and Modelling of Humans , Co-organizer	2024 – 2025
Co-organized both editions of this workshop at the AAAI Conference on Artificial Intelligence; the 2024 edition reached 300 registrations.	1 year
ICLR Workshop: Multi-Agent Learning and Its Opportunities in the Era of Generative AI , Co-organizer	2026 – 2026
	1 year

Spring School on Reinforcement Learning and Control, CWI , Teaching Staff and Co-organizer Ran tutorials on reinforcement learning for an interdisciplinary group of students, plus organizational duties.	2025 – 2025 1 year
ELLIS Summer School on Collaborative and Generative AI , Invited Tutorial Speaker	2024 – 2024 1 year
SIKS Course on RL for Adaptive Hybrid Intelligence , Invited Lecturer Invited lecture on reinforcement learning for ad-hoc cooperation, part of a PhD course in the Netherlands Research School for Information and Knowledge Systems.	2023 – 2023 1 year
CS-E4070 - Probabilistic Modelling for Cognition and Interaction, Aalto University , Co-organizer and Instructor Designed and implemented a Master's and PhD level special topic course together with Dr. Tomi Peltola.	2018 – 2018 1 year

Supervision

- **2024** — Mia Choi, MSc in Cognitive Robotics, TU Delft: "Multi-Agent Reinforcement Learning for Portfolio Management", in collaboration with Robeco Investment.
- **2024** — Aranya Sinha, MSc in Computer Science, TU Delft: "Risk-sensitive Reinforcement Learning for Portfolio Allocation", in collaboration with Robeco Investment.
- **2021** — Alex Hämäläinen, MSc in Computer Science, Aalto University: "Differentiable User Models"
- **2019** — Ari-Pekka Härkönen, BSc in Computer Science, Aalto University: "Computational Models of Theory of Mind"

Awards and Grants

- **2019** — ELLIS PhD Student. Nominated and accepted to the pan-European PhD programme of the European Lab for Learning and Intelligent Systems, as part of its first cohort.
- **2019** — KAUTE Personal Research Grant. Personal doctoral grant from the Finnish Science Foundation for Technology and Economics, received four times in a row (2019-2023), totalling 96,000 euros.
- **2020** — Aalto University Competitive Co-department Funding Recipient. PhD project granted co-department funding as part of an internal process.

Service

- Program Committee Member: NeurIPS, ICML, ICLR, AAAI, AAMAS, STOC, BNAIC, JMLR, JAIR

Invited Workshops and Seminars

- **2024** — Invited Attendee, Lorentz Centre Workshop: Research Environments for Human-Machine Teaming, Leiden, The Netherlands.
- **2023** — Invited Attendee, Dagstuhl Workshop: Model Learning for Improved Trustworthiness in Autonomous Systems, Schloss Dagstuhl, Germany.

Publications

Distributional Active Inference Abdullah Akgül, Gülçin Baykal, Manuel Haussmann, Mustafa Mert Çelikok, Melih Kandemir openreview.net/forum?id=m3O4qYQ5hu	2026
On the Complexity of Learning to Cooperate with Populations of Socially Rational Agents Saptarashmi Bandhopadhyay, Mustafa Mert Çelikok, R. Loftin	2025
Value Improved Actor Critic Algorithms Y. Oren, M. A. Zanger, P. R. Van der Vaart, Mustafa Mert Çelikok, M. T. J. Spaan, W. Bohmer	2025

Uncoupled Learning of Differential Stackelberg Equilibria with Commitments	2024
R. Loftin, Mustafa Mert Çelikok, H. Van Hoof, Samuel Kaski, F. A. Oliehoek	
Best-Response Bayesian Reinforcement Learning with Bayes-adaptive POMDPs for Centaurs	2022
Mustafa Mert Çelikok, F. A. Oliehoek, Samuel Kaski	
Model-based Multi-agent Reinforcement Learning for AI Assistants	2023
Mustafa Mert Çelikok aaltodoc.aalto.fi/handle/123456789/120725	