

Dr. Mustafa Mert Çelikok

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Education and Work

Aalto University, Finland

January 2019 – July 2023

Ph.D. Computer Science

Model-based Multi-agent Reinforcement Learning for AI Assistants

Aalto University, Finland

September 2016 – December 2018

M.Sc. Computer Science

Machine Learning, Data Science and Artificial Intelligence Programme (MACADAMIA)

- Completed with honours
- Grade: 4.21/5.0

Selçuk University, Turkey

September 2011 – September 2015

B.Eng. Computer Engineering

- First-class honours

Decimatech, Turkey

September 2015 – September 2016

Co-founder and CTO

Centrum Wiskunde & Informatica, The Netherlands

January 2023 – April 2023

PhD Research Internship

Sample-complexity of Monte Carlo Tree Search

Delft University of Technology, The Netherlands

September 2020 – July 2023

Visiting PhD Student (ELLIS PhD Programme)

Model-based Multi-agent Reinforcement Learning for AI Assistants

Delft University of Technology, The Netherlands

September 2023 – September 2026

Postdoctoral Researcher

Publications

1. Robert Loftin*, Mustafa Mert Çelikok*, Herke van Hoof, Samuel Kaski, and Frans A. Oliehoek. Uncoupled learning of differential stackelberg equilibria with commitments, 2023. URL <https://arxiv.org/abs/2302.03438>
2. Alex Hämmäläinen, Mustafa Mert Çelikok, and Samuel Kaski. Differentiable user models. In *The 39th Conference on Uncertainty in Artificial Intelligence (UAI)*, 2023. doi: 10.48550/ARXIV.2211.16277. URL <https://arxiv.org/abs/2211.16277>
3. Miguel Suau, Jinke He, Mustafa Mert Celikok, Matthijs T. J. Spaan, and Frans A Oliehoek. Distributed influence-augmented local simulators for parallel MARL in large networked systems. In Alice H. Oh, Alekh Agarwal, Danielle Belgrave, and Kyunghyun Cho, editors, *Advances in Neural Information Processing Systems*, 2022. URL <https://openreview.net/forum?id=1KF0waYNQ1b>
4. Mustafa Mert Çelikok, Frans A. Oliehoek, and Samuel Kaski. Best-response bayesian reinforcement learning with ba-pomdps for centaurs. In *International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)*, 2022
5. Mustafa Mert Celikok, Pierre-Alexandre Murena, and Samuel Kaski. Teaching to learn: Sequential teaching of learners with internal states. In *Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI)*, 2023
6. Mustafa Mert Çelikok, Tomi Peltola, and Samuel Kaski. Agent robustness to negative interruptions: A multi-agent learning approach. In *Bridging Game Theory and Deep Learning Workshop NeurIPS*, 2019b
7. Tomi Peltola, Mustafa Mert Çelikok, Pedram Daei, and Samuel Kaski. Modelling user's theory of ai's mind in interactive intelligent systems. In *The Multi-disciplinary Conference on Reinforcement Learning and Decision Making*, 2019b
8. Mustafa Mert Çelikok, Tomi Peltola, Pedram Daei, and Samuel Kaski. Interactive ai with a theory of mind. In *Computational Modeling in Human-Computer Interaction ACM CHI Workshop*, 2019a
9. Tomi Peltola, Mustafa Mert Çelikok, Pedram Daei, and Samuel Kaski. Machine teaching of active sequential learners. *Advances in neural information processing systems (NeurIPS)*, 32, 2019a
10. Mustafa Mert Çelikok, Pierre-Alexandre Murena, and Samuel Kaski. Modelling needs user modelling. *Frontiers in Artificial Intelligence*, 6:61

Achievements and Funding

ELLIS PhD Student

2019 – 2023

- Visiting PhD student at TU Delft under Dr. Frans Oliehoek as part of the European Lab for Learning and Intelligent Systems' PhD programme.

KAUTE Research Grant

July 2019 – July 2023

- Received The Finnish Science Foundation for Technology and Economics research grant for doctoral candidates four times, a total of 90,000 euros in four-year installments.

Competitive Co-department Funding Recipient

2020 – 2023

- Aalto University Department of Computer Science have committed to fund 24 months of my doctoral studies.

Macadamia Honour's Student

2016 – 2018

- Chosen as an honour's student to work part-time (full-time in June, July, and August) as a research assistant in the Probabilistic Machine Learning group during my Master's.

Summer Schools and Courses

Deep Learning and Reinforcement Learning Summer School

2019

- Attended the DLRSS 2019 by CIFAR and Amii in University of Alberta and presented a poster at the poster sessions.

Regularization Methods for Machine Learning Summer School (RegML)

2020

- Attended the RegML 2020 by University of Genoa and MaLGA.

Introduction to Convex Optimization Summer Course

2020

- Attended the Intro ConvOpt summer course by MaLGA and University of Genoa

Summer School of Machine Learning at Skoltech (SMILES)

2020

- Attended the Machine Learning Summer School by Skolkovo Institute of Science and Technology.

ICAPS Online Summer School on Automated Planning & Scheduling

2020

Teaching

CS-E4070 - Probabilistic Modelling for Cognition and Interaction

2018

- Co-organised with Tomi Peltola

Theory of Reinforcement Learning Reading Club

2019–

- Organising a weekly reading group on theoretical foundations of Reinforcement Learning

Multi-agent Learning Reading Club

2019–

- Organising a weekly reading group on multi-agent learning

Languages

Turkish and English

- Simultaneous bilingual

Finnish

- Elementary

Extracurricular Interests

- Kantian ethics
- Collecting fountain pens
- Military history
- Boxing