ABDULLAH TOKMAK

DOCTORAL RESEARCHER AT AALTO UNIVERSITY

PERSONAL INFORMATION

Citizenship: German
Date and place of birth: 08.03.1998 in Düren, Germany
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PUBLICATIONS

Journal articles

[AT1] **A. Tokmak**, C. Fiedler, M. Zelinger, S. Trimpe, J. Köhler, "Automatic nonlinear MPC approximation with closed-loop guarantees," IEEE Transactions on Automatic Control (JUFO 3), 2025.

Conference proceedings

[AT2] **A. Tokmak**, T. Schön, D. Baumann, "Towards safe control parameter tuning in distributed multi-agent systems," Conference on Decision and Control (JUFO 1), 2025.

[AT3] **A. Tokmak**, T. Schön, D. Baumann, "Safe exploration in reproducing kernel Hilbert spaces," International Conference on Artificial Intelligence and Statistics (JUFO 2), 2025.

[AT4] **A. Tokmak**, T. Schön, D. Baumann, "PACSBO: Probably approximately correct safe Bayesian optimization," Symposium on Systems Theory in Data and Optimization (JUFO 0), 2024.

Preprints

[AT5] **A. Tokmak**, T. Schön, D. Baumann, "Safe Bayesian optimization across noise models via scenario optimization," under review for IEEE Control System Letters (JUFO 1), 2025.

EXPERIENCE

Doctoral researcher at Aalto University 03/2023 - today
Department of Electrical Engineering and Automation, Cyber-Physical Systems Group *Espoo, Finland*

- Ph.D. project: Safe and resource-aware multi-agent learning with Gaussian processes
- Supervisors: Prof. Dr. Dominik Baumann (Aalto University) and Prof. Dr. Thomas Schön (Uppsala University)

Student assistant at Research Center Jülich 12/2020 - 08/2021
Deterministic global optimization for energy systems and climate research *Jülich, Germany*

Intern at MBDA Deutschland GmbH 10/2019 - 03/2020
Optimization of flight control algorithms *Schrobenhausen, Germany*

EDUCATION

ETH Zurich 04/2022 - 11/2022
Exchange student in Mechanical Engineering (best possible project grade) *Zurich, Switzerland*

RWTH Aachen University 10/2020 - 11/2022
Master of Science in General Mechanical Engineering (graduated with distinction) *Aachen, Germany*

RWTH Aachen University 10/2016 - 09/2020
Bachelor of Science in Mechanical Engineering (grade=1.8; grade scale 1.0 *best* — 5.0 *fail*) *Aachen, Germany*

TEACHING

Digital and optimal control 09/2023 - today
Teaching assistant *Espoo, Finland*

- Responsible for creating and teaching weekly exercise sessions; creating and grading exams
- Responsible for the lecture "Linear model predictive control and convex optimization" and "Discretization"

Foundations of machine learning 09/2021 - 03/2022
Student teaching assistant *Aachen, Germany*

Mechanics 09/2017 - 03/2019
Student teaching assistant *Aachen, Germany*

PRESENTATIONS

Seminars

Invited speaker at the SIAM Conference on Uncertainty Quantification	03/2026
Applied Mathematics Research Unit at Lappeenranta–Lahti University of Technology	03/2025
Division of Systems and Control at Uppsala University	10/2024

Invited talks

Spotlight talk at Symposium on Systems Theory in Data and Optimization	09/2024
Finnish AI Day 2024	11/2024

Posters

Finnish AI Day	2023, 2024, 2025
IEEE Finnish Control Workshop	09/2025
European Workshop on Reinforcement Learning	09/2025
Aligning Reinforcement Learning Experimentalists and Theorists Workshop	07/2024

SUPERVISION

Safe and optimal control parameter tuning (B. Avci, Master thesis)	2025
Probabilistic guarantees and robustness in deep neural networks predictions (J. Niemi, Bachelor thesis)	2025
Machine Learning in Football Analysis (A. Oura, Bachelor thesis)	2025
Towards safe control of legged robots (Project work),	2025
Learning-based Control of Multi-Agent Systems (D. Gkoutzounis, Master thesis)	2024
Safe Learning in multi-agent systems with Gaussian Processes (H. Toikka, Bachelor thesis)	2024
Bounding norms in reproducing kernel Hilbert spaces (W. Lee, Summer internship)	2025

REVIEW SERVICES

IEEE Control System Letters	03/2025 - today
IEEE Conference on Decision and Control	03/2025 - today
Learning for Dynamics and Control	03/2024 - today
European Workshop on Reinforcement Learning	07/2025
Symposium on Systems Theory in Data and Optimization	07/2024
Aligning Reinforcement Learning Experimentalists and Theorists Workshop	05/2024

HONORS

Scholarship: Nokia Foundation for research in Information and communications Technology (7500€) 11/2025

Scholarship: Kansallis-Osake-Pankki Fund for teaching activities (1000€) 11/2025

Travel Grant: Finnish Automation Society (3483€) 10/2025

Friedrich-Wilhelm Award: Award from RWTH Aachen University for my master's thesis (500€) 10/2023

- Among the top 18 master's and doctoral theses of class 2022 at RWTH Aachen University
- https://www.dsme.rwth-aachen.de/cms/dsme/das-institut/aktuelle-meldungen/~bergpy/abdullah-tokmak-receives-friedrich-wilhe/

Springorium Commemorative Coin: Graduating from RWTH Aachen University with distinction 10/2023

Scholarship: IDEA League funding for my research stay at ETH Zurich 04/2023 - 11/2022

Scholarship: German National Academic Foundation 04/2018 - 11/2022

Dean's List: Among the top 5% of students 2016/2019, 2020/2021