

Thomas Kleine Buening

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Education

University of Oslo

PhD in Computer Science

- Topics: Reinforcement Learning
- Advised by Christos Dimitrakakis
- Supported by the Norwegian Research Council
- Thesis: Learning in the Presence of Cooperative, Adversarial and Strategic Agents

Oslo, Norway
Jan 2021 - Feb 2024

University of Münster

MSc in Mathematics

- Graduated with Distinction. Grade: 1.0 (equivalent GPA: 4.0/4.0)
- Topics: Probability Theory, Stochastic Processes, Stochastic Analysis
- Thesis: Branching in Random Environment and Linear Fractional Distributions

Münster, Germany
Oct 2018 - Sept 2020

University of Münster

BSc in Mathematics

- Grade: 1.9 (equivalent GPA: 3.1/4.0)
- Minor in Computer Science
- Thesis: Optimal Stopping in Discrete Time

Münster, Germany
Oct 2014 - Sept 2017

Research Experience

The Alan Turing Institute

Postdoctoral Research Associate

- Advised by Marta Kwiatkowska and Lukasz Szpruch
- Topics: Reinforcement Learning, Algorithmic Game Theory

London, United Kingdom
Mar 2024 - current

University of Oxford

Associate Member of the Department of Computer Science

- College: Trinity College (MCR)
- Topics: Reinforcement Learning, Algorithmic Game Theory

Oxford, United Kingdom
Mar 2024 - current

University of British Columbia

Visiting Student in the Probability Group

- Hosted by Edwin Perkins
- GPA: 94/100
- Topics: Stochastic Differential Equations

Vancouver, Canada
Jun 2019 - Dec 2019

Publications

Strategic Linear Contextual Bandits

Thomas Kleine Buening, Aadirupa Saha, Christos Dimitrakakis, Haifeng Xu
Conference on Neural Information Processing Systems (NeurIPS), 2024, [\[pdf\]](#)

Environment Design for Inverse Reinforcement Learning

Thomas Kleine Buening*, Villin Victor*, Christos Dimitrakakis
International Conference on Machine Learning (ICML), [Oral Presentation](#), 2024, [\[pdf\]](#)

Bandits Meet Mechanism Design to Combat Clickbait in Online Recommendation

Thomas Kleine Buening, Aadirupa Saha, Christos Dimitrakakis, Haifeng Xu
International Conference on Learning Representations (ICLR), [Spotlight Presentation](#), 2024, [\[pdf\]](#)

ANACONDA: An Improved Dynamic Regret Algorithm for Adaptive Non-Stationary Dueling Bandits

Thomas Kleine Buening, Aadirupa Saha
International Conference on Artificial Intelligence and Statistics (AISTATS), 2023, [\[pdf\]](#)

Minimax-Bayes Reinforcement Learning

Thomas Kleine Buening*, Christos Dimitrakakis*, Hannes Eriksson*, Divya Grover*, Emilio Jorge*
International Conference on Artificial Intelligence and Statistics (AISTATS), 2023, [\[pdf\]](#)

Interactive Inverse Reinforcement Learning for Cooperative Games
Thomas Kleine Buening, Anne-Marie George, Christos Dimitrakakis
International Conference on Machine Learning (ICML), 2022, [\[pdf\]](#)
Best Paper Award at the Cooperative AI Workshop at NeurIPS 2021

On Meritocracy in Optimal Set Selection
Thomas Kleine Buening, Meirav Segal, Debabrota Basu, Anne-Marie George, Christos Dimitrakakis
Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO), 2022, [\[pdf\]](#)
Best Student Paper Award

Teaching Experience

University of Oslo

Teaching Assistant

- TA for “Reinforcement Learning and Decision Making under Uncertainty” (undergrad/grad)

Oslo, Norway

Aug 2022 - Jul 2023

University of Münster

Teaching Assistant

- TA for “Introduction to Probability Theory” (undergrad)
- TA for “Probability Theory I” (undergrad)
- TA for “Mathematical Statistics” (undergrad)

Münster, Germany

Oct 2018 - Sep 2020

Qingdao University of Science and Technology

Teaching Assistant at the German-Chinese Campus

- TA for “Ordinary Differential Equations” (undergrad)

Qingdao, China

Mar 2018 - Jul 2018

Other Work Experience

Deloitte Consulting

Intern

- ML and AI for business applications (forecasting, trend analysis, ...)
- Prototyping of crowd-sourcing platform

Hamburg, Germany

Oct 2017 - Feb 2018

zeb information technology

Student Assistant and Intern

- Automated data quality tests
- Model validation

Münster, Germany

Jan 2016 - Sep 2017

Service and Outreach

Workshops **Models of Human Feedback for AI Alignment (ICML 2024)**, Organizer & Moderator

Reviewing ICML 2022-2024, NeurIPS 2022-2024, ICLR 2023-2024, EWRL 2023-2024

Awards

2022 **Best Paper Award with Student Presenter**, EAAMO 2022

Washington DC

2021 **Best Paper Award**, Cooperative AI Workshop at NeurIPS 2021

Virtual

2019 **DAAD Scholarship**, Student Exchange Scholarship

Vancouver

Invited Talks

2024 **Interactive Inverse Reinforcement Learning**, ML Seminar, Charles University

Prague

2024 **Minimax-Bayes Reinforcement Learning**, QAVAS, University of Oxford

Oxford

Programming

Python (NumPy, Scikit-learn, PyTorch), SQL

Languages

German (Native) **English** (Fluent) **Chinese** (Conversational)