

# Thomas Kleine Buening

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## Education

### University of Oslo

PhD in Computer Science

Oslo, Norway

Jan 2021 - current (expected Mar 2024)

- Topics: Reinforcement Learning, Game Theory, Algorithmic Fairness
- Advised by Christos Dimitrakakis
- Funded by the Norwegian Research Council

### University of British Columbia

Visiting Student in the Probability Group

Vancouver, Canada

Jun 2019 - Dec 2020

- GPA: 94/100
- Hosted by Edwin Perkins
- Funded by DAAD scholarship

### University of Münster

Master of Science in Mathematics

Münster, Germany

Oct 2018 - Sept 2020

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

### University of Münster

Bachelor of Science in Mathematics

Münster, Germany

Oct 2014 - Sept 2017

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

### Selected Coursework (BSc, MSc, PhD):

linear algebra, complex analysis, functional analysis, probability theory I-III, mathematical statistics, stochastic analysis, computability theory

## Teaching Experience

### University of Oslo

Teaching Assistant

Oslo, Norway

Aug 2022 - Jul 2023

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

### University of Münster

Teaching Assistant

Münster, Germany

Oct 2018 - Sept 2020

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

### Qingdao University of Science and Technology

Teaching Assistant at the German-Chinese Campus

Qingdao, China

Mar 2018 - Jul 2018

- Taught refresher course on “Ordinary Differential Equations” (undergrad)

## Publications and Preprints

### CONFERENCE PROCEEDINGS

Minimax-Bayes Reinforcement Learning

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

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, [\[pdf\]](#)

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*

## PREPRINTS / WORKSHOP PAPER

### Bandits Meet Mechanism Design to Combat Clickbait in Online Recommendation

Thomas Kleine Buening, Aadirupa Saha, Christos Dimitrakakis, Haifeng Xu  
*Interactive Learning with Implicit Human Feedback Workshop (ICML 2023)*, [\[pdf\]](#)

### Environment Design for Inverse Reinforcement Learning

Thomas Kleine Buening, Christos Dimitrakakis  
*Human in the Loop Learning Workshop (NeurIPS 2022)*, [\[pdf\]](#)

## Work Experience

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### Deloitte Consulting

Intern

- ML and AI for business applications (forecasting, trend analysis, ...)

Hamburg, Germany

Oct 2017 - Feb 2018

### zeb consulting

Student Assistant in Software Engineering

- Designed and implemented automated data quality tests

Münster, Germany

Jan 2016 - Sep 2017

### zeb consulting

Intern in Finance

- Credit risk model validation

Frankfurt, Germany

Feb 2017 - Apr 2017

## Skills

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

## Languages

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**German** Native

**English** Fluent

**Chinese** Conversational