Thomas Kleine Buening

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Education

University of Oslo — *Oslo, Norway*
PhD in Computer Science — *Jan 2020 - current (expected Apr 2023)*
- Topics: Reinforcement Learning, Bandits, Game Theory, Mechanism Design
- Advisor: Christos Dimitrakakis
- Funded by the Norwegian Research Council

University of British Columbia — *Vancouver, Canada*
Visiting Student in the Probability Group — *Jun 2019 - Dec 2020*
- GPA: 94/100
- Hosted by Edwin Perkins
- Funded through DAAD scholarship

University of Münster — *Münster, Germany*
Master of Science in Mathematics — *Oct 2018 - Sept 2020*
- Graduated with Distinction. Grade: 1.0 (equivalent GPA: 4.0/4.0)
- Specialised in Probability Theory, Stochastic Processes, and Statistics
- Thesis: Branching in Random Environment and Linear Fractional Distributions

University of Münster — *Münster, Germany*
Bachelor of Science in Mathematics — *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):

probability theory I-III, mathematical statistics, stochastic calculus, linear algebra, computability theory, data-based decision making

Teaching Experience

University of Oslo — *Oslo, Norway*
Teaching Assistant — *Aug 2022 - Jul 2023*
- TA for "Reinforcement Learning and Decision Making under Uncertainty" (undergrad/grad)

University of Münster — *Münster, Germany*
Teaching Assistant — *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 — *Qingdao, China*
Teaching Assistant at the German-Chinese Campus — *Mar 2018 - Jul 2018*
- Taught refresher course on "Ordinary Differential Equations" (undergrad)

Work Experience

Deloitte Consulting — *Hamburg, Germany*
Intern — *Mar 2018 - Jul 2018*
- ML and AI for business applications (forecasting, trend analysis, ...)
- Developed a prototype of a crowd-sourcing platform

zeb consulting — *Münster, Germany*
Student Assistant in Software Engineering — *Jan 2016 - Sep 2017*
- Designed and implemented automated data quality tests
- Worked on various data cleansing tasks

zeb consulting — *Frankfurt, Germany*
Intern in Finance — *Feb 2017 - Apr 2017*
- Credit risk model validation
- Assisted with other consultancy tasks

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, 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, 2023, [pdf]

Interactive Inverse Reinforcement Learning for Cooperative Games
 Thomas Kleine Buening, Anne-Marie George, Christos Dimitrakakis
 International Conference on Machine Learning, 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, 2022, [pdf]
 Best Student Paper Award

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 at NeurIPS 2023, [pdf]

Environment Design for Inverse Reinforcement Learning
 Thomas Kleine Buening, Christos Dimitrakakis
 Human in the Loop Learning Workshop at NeurIPS 2022, [pdf]

Skills

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

Languages

German   Native
 English   Fluent
Chinese   Conversational