

Mathias Jackermeier

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EDUCATION

PhD in Machine Learning – University of Oxford Topic: Deep Reinforcement Learning AIMS Centre for Doctoral Training	Oct '22–Sep '26
MSc in Computer Science – University of Oxford Focus: Machine Learning Passed with distinction Full scholarship from DAAD	Oct '20–Sep '22
Study abroad – University of Illinois at Urbana-Champaign GPA: 4.0/4.0 Exchange programme with the Department of Computer Science	Aug '18–Dec '18
BSc in Informatics – Technical University of Munich (TUM) Passed with distinction (grade 1.1) Top 2% of cohort	Oct '16–May '20

EXPERIENCE

PhD Research – Department of Computer Science, University of Oxford <ul style="list-style-type: none">Working on instruction following and safety in deep reinforcement learningDeveloped a novel approach for executing arbitrary tasks specified in a formal languageWe achieve state-of-the-art results in terms of success rate, efficiency, and generalisation	Oct '22–present
Teaching assistant – AIMS Centre for Doctoral Training, University of Oxford <ul style="list-style-type: none">Taught a course on Gaussian processes and Bayesian inference to first-year PhD studentsAssisted students with questions and assignment work, receiving excellent feedback	Oct '24–Nov '24
MSc Research – Department of Computer Science, University of Oxford <ul style="list-style-type: none">Research on graph machine learning for knowledge graphs enriched with logical assertionsProposed a novel embedding model, achieving state-of-the-art results in downstream prediction tasks	Mar '22–Sep '22
Software Engineering Intern – CQSE GmbH <ul style="list-style-type: none">Full-stack development of the TeamScale software intelligence platformRedesigned the frontend and improved performance of rule browser via dynamic loadingAdded new language constructs to the TypeScript lexer and parserImplemented new code quality checks	Jun '20–Aug '20
Student Research Assistant – Chair for Theoretical Computer Science, TUM <ul style="list-style-type: none">Lead developer of <i>dtControl</i>, a tool for decision tree learning for controller representationDesigned and implemented the tool from the ground upDeveloped novel algorithms and ideas, resulting in reduction of controller sizes up to 96%	Jun '19–Jan '20
Machine Learning Intern – TNG Technology Consulting GmbH <ul style="list-style-type: none">Developed a deep learning image segmentation solutionExperimented with various methods for data augmentationMy solution was integrated into a larger internal image processing pipeline	Mar '17–Apr '17

SKILLS

Proficient: Python, Java, C++, PyTorch / NumPy
Familiar: JavaScript / TypeScript, SQL, C#, Haskell
Languages: English (fluent), German (native)

PUBLICATIONS

Jackermeier, M., Abate, A. (2024). DeepLTL: Learning to Efficiently Satisfy Complex LTL Specifications for Multi-Task RL. *Under review at ICLR* (among **top 1.2%** of submissions). [arXiv:2410.04631](https://arxiv.org/abs/2410.04631)

Jackermeier, M., Chen, J., and Horrocks, I. (2024). Dual Box Embeddings for the Description Logic EL++. In *WWW'24 (oral)*. [arXiv:2301.11118](https://arxiv.org/abs/2301.11118)

Ashok, P., **Jackermeier, M.**, Křetínský, J., Weinhuber, C., Weininger, M., Yadav, M. (2021). dtControl 2.0: Explainable Strategy Representation via Decision Tree Learning Steered by Experts. In *TACAS'21*. [arXiv:2101.07202](https://arxiv.org/abs/2101.07202)

Ashok, P.*, **Jackermeier, M.***, Jagtap, P., Křetínský, J., Weininger, M.*, Zamani, M. (2020). dtControl: Decision Tree Learning Algorithms for Controller Representation. In *HSCC'20*. [arXiv:2002.04991](https://arxiv.org/abs/2002.04991)