MATHIAS JACKERMEIER

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SUMMARY

Computer science graduate with a strong background in mathematics, programming, and machine learning. Currently pursuing a PhD in machine learning at the University of Oxford with a focus on deep reinforcement learning.

EDUCATION

PhD in Machine Learning – University of Oxford **10/2022 - present**

- Topic: Deep Reinforcement Learning
- Part of the EPSRC CDT in Autonomous Intelligent Machines and Systems (AIMS CDT)
- Expected graduation date: 09/2026

MSc in Computer Science – University of Oxford **10/2020 - 09/2022**

- Passed with distinction
- Advanced coursework in machine learning, databases, and game theory

Study abroad – University of Illinois at Urbana-Champaign **08/2018 - 12/2018**

- GPA: 4.0/4.0
- Coursework in machine learning, data science, and programming languages

BSc in Informatics – Technical University of Munich (TUM) **10/2016 - 05/2020**

- Passed with distinction (grade 1.1)
- Foundational coursework in computer science and mathematics; electives in machine learning, natural language processing, and systems implementation

EXPERIENCE

Software Engineering Intern – CQSE GmbH **06/2020 - 08/2020**

- Full-stack development of the TeamScale software intelligence platform
- Redesigned and improved performance of rule browser via dynamic loading
- Added new language constructs to the TypeScript lexer and parser
- Implemented new code quality checks

Student Research Assistant – Chair for Theoretical Computer Science, TUM **06/2019 - 10/2019**

- Lead developer of *dtControl*, a tool for decision tree learning for controller representation
- Designed and implemented the tool from the ground up
- Developed novel algorithms and ideas, resulting in two joint publications

Software Engineering Intern – itestra GmbH **06/2019 - 10/2019**

- Full stack web development with Angular and Java
- Implemented a file-based document management system and automatic filling of PDF documents
- Integrated the database with the provisional login system
- Modelled domain-specific products based on the requirements specification

Machine Learning Intern – TNG Technology Consulting GmbH **03/2017 - 04/2017**

- Developed a deep learning based image segmentation solution
- Experimented with various methods for data augmentation
- My solution was integrated into a larger internal image processing pipeline

SELECTED PROJECTS

Machine Learning

- Implemented several machine learning algorithms such as (graph) neural networks, Gaussian processes, and random forests from scratch
- Developed a generative model for approximating 2D fluid simulations as part of a summer programme offered by TUM

Database Systems Implementation

- Partially implemented a simple relational database system from scratch in C++
- Developed a proof-of-concept graph database for a university course

Programming Languages Implementation

- Implemented an interpreter for a simple procedural programming language in Python
- Developed a Haskell interpreter for a functional programming language with type checking

TECHNOLOGIES & LANGUAGES

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

HONOURS & AWARDS

EPSRC CDT Autonomous Intelligent Machines and Systems

- Full funding for my PhD via an EPSRC scholarship

German Academic Exchange Service (DAAD)

- Full study abroad scholarship for my MSc at Oxford

best.in.tum

- Promotion through the *best.in.tum* programme, awarded to the best ~2% of students in the TUM Department of Informatics

VOLUNTEERING

Conference Reviewing

- Reviewed papers for ICLR, L4DC, SAIV, and AAMAS conferences

Department of Computer Science, University of Oxford

- Secretary of the Oxford Computer Science Graduate Society (2023-2025)
- Co-organiser of the annual departmental Oxford Computer Science Conference

Public Engagement and Outreach

- Participated in maths-related outreach activities at open days and fairs
- Won the Director's Choice award for public engagement activity as part of the CDT training programme