MANUEL LERCHNER

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EXPERIENCE

Software Development Intern   Nov 2025 – Apr 2026
QuantCo Deutschland GmbH   *Karlsruhe, Germany*
  - Collaborated with others to design and build a modular caching and orchestration layer in Python, enabling applications to efficiently manage data retrieval and storage while reusing cached results.
  - Designed and rolled out Copier-based templates to align repositories and shared tooling, improving security in GitHub Actions workflows across teams.
  - Developed an automated analysis tool that diagnoses conda-forge build failures, reducing debugging time for package failures and improving package maintenance efficiency.

TA: Functional Programming & Verification   Apr 2025 – Sep 2025
Technical University of Munich (TUM)   *Munich, Germany*
  - Orchestrated coordination and supervision of weekly tutorials for 1,200+ students, providing comprehensive support to a large student cohort across multiple programming concepts.
  - Co-developed comprehensive exam questions and assessments in OCaml, integrated an automatic grading system using Artemis, improving assessment quality and scalability.

Student Assistant: Machine Learning   Oct 2024 – Mar 2025
Technical University of Munich (TUM)   *Munich, Germany*
  - Delivered weekly homework feedback and support to students, Improved student performance and comprehension in machine learning course material.

Student Assistant: Probability Theory   Apr 2024 – Sep 2024
Technical University of Munich (TUM)   *Munich, Germany*
  - Conducted two weekly tutorials focusing on probability theory and statistics, improved student exam performance on probability concepts with positive course feedback.

Student Assistant: Intro to Computer Science   Oct 2023 – Mar 2024
Technical University of Munich (TUM)   *Munich, Germany*
  - Delivered three-hour weekly tutorials for ~30 students in Java, enabled students to successfully complete the course with strong programming fundamentals.

TA: Functional Programming & Verification Revision   27.09.2023 – 30.09.2023
Technical University of Munich (TUM)   *Munich, Germany*
  - Planned and taught 4 out of 8 days of the intensive revision course, covering program verification, big-step semantics, termination proofs, and equational reasoning.

Student Assistant: Functional Programming   Apr 2023 – Sep 2023
Technical University of Munich (TUM)   *Munich, Germany*
  - Conducted two weekly tutorials demonstrating programming tasks in OCaml, taught verification of imperative and functional programs to students across multiple programming concepts.

Student Assistant: Intro to Computer Science   Oct 2022 – Mar 2023
Technical University of Munich (TUM)   *Munich, Germany*
  - Delivered three-hour weekly tutorials for ~30 students in Java, enabled students to successfully complete the course with strong programming fundamentals.

Coding Camp Participant   02.09.2022 – 09.09.2022
itestra Coding Camp   *Munich, Germany*
  - Built a Python/React brainstorming tool with real-time collaboration features, Delivered a functional application facilitating real-time team collaboration
  - Implemented NLP-based semantic clustering algorithm, Automatically grouped ideas into relevant categories in real-time, improving idea organization

EDUCATION

M.Sc. in Computer Science   Oct 2024 – Expected October 2026
Technical University of Munich (TUM)   *Current GPA: 1.26*
Specialization: Machine Learning, Formal Verification and Programming Languages

B.Sc. in Computer Science   Oct 2021 – Oct 2024
Technical University of Munich (TUM)   *Final GPA: 1.25, with high distinction*
Specialization: Scientific Computing, Machine Learning, Mathematics

  - Thesis: Fuzzy Tuning Technique for Molecular Dynamics Simulations in AutoPas

Matura   Sep 2016 – Jul 2021
Technologische Fachoberschule Bruneck   *Final Score: 100/100, with honors*
Specialization: Electrical Engineering

HONORS & AWARDS

best.in.tum Member *2024 - Present*
Exclusive mentoring program for top-performing computer science students at TUM. Members receive personalized mentoring from experienced professors, access to specialized workshops, early research opportunities, and direct networking with industry partners to advance their academic and professional development.

Deutschlandstipendium (3 times) *2023 - Present*
Prestigious merit-based scholarship for outstanding academic achievement and personal engagement. Awarded three times by TUM in collaboration with Amazon Germany, Check24, and Karl Max von Bauernfeind e.V., recognizing both academic excellence and social responsibility.

CERTIFICATIONS

Neo4j Certified Professional – Graph Database Expertise Aug 2023
Neo4j

ECDL Computing – Advanced IT Skills Certification Feb 2020
ECDL Deutschland

TECHNICAL PROJECTS

Personal Portfolio Website
Personal Project

- Built and deployed a website showcasing projects across algorithms, web development, AI, and simulation, Demonstrated strong breadth across multiple software engineering domains
- Designed and implemented projects across diverse technical domains, Programming languages (Lambda Calculus: interpreter, Mineflayer-Compiler: DSL), algorithm visualization (Path-Finder, Algo Explorer), full-stack web applications (Task-Planner, Expense-Tracker, Restaurant-App, Monopoly-Bank, Tile Planner), financial systems (Mock-Trading), AI platforms (Personpedia), and biological HPC simulations (Cell Collectives).
  See https://manuellerchner.de/ for details.

BrAInstorming Web Application
itestra Coding Camp 2022

- Developed a Python/React brainstorming tool with real-time collaboration, Facilitated real-time team collaboration on idea generation
- Implemented NLP-based semantic clustering algorithm, Automatically grouped ideas into relevant categories in real-time

TECHNICAL SKILLS

Languages: Python, C++, TypeScript, JavaScript, OCaml, Rust, Java, HTML/CSS | Tools & Platforms: Git/GitHub, Linux, conda-forge, React, Next.js, Angular, Docker, Jupyter, AWS | Concepts: Algorithms & Data Structures, Machine Learning, Compiler Design, Formal Verification, Probability Theory, High-Performance Computing

LANGUAGES

German, English, Italian – Native, Fluent, Intermediate