

# MANUEL LERCHNER

Computer Science Student @ TUM, Aspiring Software Engineer

@ manuel.lerchner1111@gmail.com

 manuel-lerchner

 ManuelLerchner

 manuellerchner.de



## EXPERIENCE

### Software Development Intern

**QuantCo Deutschland GmbH**

 Nov 2025 – Apr 2026

 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

**Technical University of Munich (TUM)**

 Apr 2025 – Sep 2025

 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

**Technical University of Munich (TUM)**

 Oct 2024 – Mar 2025

 Munich, Germany

- Delivered weekly homework feedback and support to students, improved student performance and comprehension in machine learning course material.

### Student Assistant: Probability Theory

**Technical University of Munich (TUM)**

 Apr 2024 – Sep 2024

 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

**Technical University of Munich (TUM)**

 Oct 2023 – Mar 2024

 Munich, Germany

- Delivered three-hour weekly tutorials for ~30 students in Java, enabled students to successfully complete the course with strong programming fundamentals.

## EDUCATION

### M.Sc. in Computer Science

**Technical University of Munich (TUM)**

 Oct 2024 – Expected October 2026

Specialization: Machine Learning, Formal Verification and Programming Languages.

- Current GPA: 1.26

### B.Sc. in Computer Science

**Technical University of Munich (TUM)**

 Oct 2021 – Oct 2024

Specialization: Scientific Computing, Machine Learning, Mathematics.

- Final GPA: 1.25, with high distinction
- Thesis: Fuzzy Tuning Technique for Molecular Dynamics Simulations in AutoPas

### Matura

**Technologische Fachoberschule Bruneck**

 Sep 2016 – Jul 2021

Specialization: Electrical Engineering.

- Final Score: 100/100, with honors

## HONORS & AWARDS

### best.in.tum Member

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)

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.

## LANGUAGES

 German (Native)  English (Fluent)

 Italian (Intermediate)

## TA: Functional Programming & Verification Revision

### Technical University of Munich (TUM)

📅 27.09.2023 – 30.09.2023     📍 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

### Technical University of Munich (TUM)

📅 Apr 2023 – Sep 2023     📍 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

### Technical University of Munich (TUM)

📅 Oct 2022 – Mar 2023     📍 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

### itestra Coding Camp

📅 02.09.2022 – 09.09.2022     📍 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

## 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

## 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

## CERTIFICATES

 Neo4j Certified Professional  
– Graph Database Expertise  
Neo4j – Aug 2023

 ECDL Computing  
– Advanced IT Skills Certification  
ECDL Deutschland – Feb 2020