

# Manuel Oelmaier

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## Profile

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Computer Science student at the Technical University of Munich, specializing in Machine Learning and AI. Experienced in fine-tuning transformer models and developing software and web applications. Proficient in Python, Java, Bash, and full-stack development. Passionate about applying AI and software engineering skills to innovative projects.

## Education

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**Bachelor of Science in Computer Science** 2021 – 2025  
Technical University of Munich, Germany

- Focus: Machine Learning, AI, Software Development
- Relevant coursework: Praktikum Next Gen AI, Fundamentals of Programming, Fundamentals of Algorithms and Data Structures

**Abitur** 2015 – 2021  
Oskar-Maria-Graf Gymnasium, Germany

- Focus on mathematics and computer science
- *Seminar paper:* Implementation of a KI based on the Minimax algorithm for a self-created game

## Skills

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**Technical:** Python, Java, Javascript/ Typescript, HTML,CSS , C/C++, Bash ,SQL & MongoDB

**Frameworks / Tools:** Pytorch, Git , Linux , Huggingface , React

**Areas of Interest:** Machine Learning, Artificial Intelligence, Web Development

**Languages:** German ,English (B2)

**Soft Skills:** Communication, Teamwork, Problem-solving

## Projects

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**Praktikum Next Gen AI: Finetuning an AI Model** 2025

- Fine-tuned transformer-based models for generating Python code.
- Set up an automated pipeline to evaluate models on multiple test cases.
- Improved model performance from 40% to 75% on code generation tasks.
- Published the model as a Visual Studio Code extension, enabling users to leverage AI capabilities directly within their coding environment.

**Learning Website for Theoretical Informatics** 2025

- Collected all multiple-choice questions for the theoretical informatics course at TUM.
- Developed a web-based platform for interactive learning and self-assessment.

**Training a Chess AI to Mirror My Playing Style** 2025 – Ongoing

- Collected all personal games from Lichess for training data.
- Converted each game into pairs of (board position, next move) and stored in a database.
- Currently training a neural network to predict my next move based on the board position.

## Extracurricular Activities

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- Chess youth trainer at SC Eching, responsible for organizing sessions and making chess engaging for children.
- Competitive chess player, frequently participating in regional tournaments with strong results.