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# Ole Petersen

olepetersen 

ole-petersen.vercel.app 

## EDUCATION

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**Technical University of Munich**, *M.Sc. Computational Science and Engineering* 10/2023 - 09/2025

- GPA: 1.2 (in German Grading System)
- Elite program focusing on numerical simulation on high-performance computers

**Technical University of Munich**, *B.Sc. Engineering Science* 09/2020 - 11/2023

- GPA: 1.3 (in German Grading System), ranking top 3% in cohort
- Completed 285 ECTS with a focus on mathematical modeling and simulation
- Relevant modules: Introduction to Deep Learning, Distributed Systems, Quantum Mechanics...
- Bachelor Thesis: Multi-Agent Reinforcement Learning with a financial model
- Term abroad: University of Exeter, UK

## SKILLS

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- **Programming Languages:** Typescript, Julia, Python, C++, Golang, Rust, SQL, Java
- **Tools:** PyTorch, Numpy, Linux, Kubernetes, Docker, Terraform, Helm, Grafana, React
- **Scientific:** Tensor Calculus, Optimization, Data Structures and Algorithms, Statistics
- **Languages:** German (native), English (fluent), Spanish (basics), French (basics)

## EXPERIENCE

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**QAware/Telekom**, *Working Student* 10/2020 - 09/2023

- Developed internal tools, CI/CD pipelines, IaC, and observability dashboards for Telekom smart speaker backend platform
- Automated creation and distribution of internal training certificates, reducing process time to  $\approx 10$  min

**Bundeswettbewerb Informatik**, *Jury Member* Since 12/2020

Graded submissions for Germany's prominent computer science competition

**Hochschulhaus Garching**, *Tutor* Since 05/2023

Organized circa 20 social events, fostering community engagement

## AWARDS

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**Bavarian Graduate School of Computational Engineering**, *Participant* Since 10/2023

Honors program participant, engaging in a collaborative scientific research project, summer academies, and soft skill seminars

**relAI scholarship (DAAD)**, *Scholarship Holder & Student Representative* Since 10/2023

Received scholarship for outstanding students in the field of reliable AI, serving as student representative

**CHECK24 GenDev**, *Scholarship Holder* 06/2023 - 06/2024

Selected for software engineering scholarship, participated in workshops and received financial support

**Deutschlandstipendium**, *Scholarship Holder* 09/2021 - 08/2023

Awarded scholarship for academic excellence and social commitment

**Bundeswettbewerb Informatik**, *Awardee* 09/2020

Recognized as one of ten awardees in Germany's prestigious computer science competition

**Mathematical Olympiad, federal level**, *Finalist* 2018, 2020

One of 192 finalists in the federal round of Germany's most influential math competition

## PROJECTS

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**Bachelor Thesis: Multi-Agent Reinforcement Learning**, *Author* 05/2023 - 10/2023

- Investigated multi-stage oligopoly model, deriving new analytical Nash equilibrium
- Demonstrated convergence of reinforcement learning algorithms to analytical equilibrium strategies
- Discovered and verified new approximate equilibrium in multi-stage oligopoly
- Grade: 1.0

**Probabilistic Data Integration Engine**, *Developer* 10/2022 - 04/2023

Developed data integration solution for probabilistic data sources using Rust

**Huddle**, *Student Project Platform Founder* 06/2021 - 09/2023

- Founded university group for building student project sharing platform
- Technologies: React, Golang, Postgres, Ory Kratos, Kubernetes

**Ferienakademie**, *Project Contributor* 09/2021

Developed decentralized task distribution system based on auctions during collaborative summer academy

**Covid Simulation**, *Developer* 12/2020 - 01/2021

- Created Monte-Carlo simulation of COVID infection risks based on contact list
- Technologies: lit-element, Typescript, dygraphs, Web Workers

**Aircraft Telemetry**, *Developer* 07/2019 - 06/2020

Designed hardware and software for collecting, processing, and visualizing live flight data from radio-controlled aircraft