

EDUCATION

- 10/2022 – 03/2026 expected **Master of Science: Computer Science** University of Stuttgart & University of Adelaide
- Current Grade: 1.3 (Scale: 1.0 = Best) | Completed 114/120 ECTS
 - Semester Abroad at the University of Adelaide (Baden-Württemberg Scholarship Recipient)
 - Master Thesis "Deep learning for anomaly detection in vehicle control units in trace files" (Supervisor Prof. Dr. Mathias Niepert)
- 10/2018 – 09/2022 **Bachelor of Science: Computer Science** University of Stuttgart
- Final Grade: 1.9 (Scale: 1.0 = Best) | Completed 180/180 ECTS
 - Bachelor Thesis "Parameter-Dependent Self-Learning Optimization" (Supervisor Prof. Dr. Dirk Pflüger)

RESEARCH EXPERIENCE

- 09/2024 – 02/2025 **Master Thesis: Deep learning for anomaly detection in vehicle control units in trace files** University of Stuttgart & Porsche AG
- Benchmarked LogLLM vs. LogBERT on proprietary Porsche and open-source data (BGL, ThunderBird)
 - Demonstrated that larger models (8B vs 1B) significantly increase F1-scores (e.g. BGL 0.419 to 0.912)
- 10/2023 – 03/2024 **AI Laboratory Course: Credit Card Fraud Detection** University of Stuttgart
- Compared DL methods vs. traditional Anomaly Detection on tabular data with 550k+ transactions
 - Achieved sota macro-average F1-score of 93% using OC-NN, outperforming kNN baselines (89%)
- 10/2023 – 03/2024 **Study Project: Automated Clustering of Small Molecules** University of Stuttgart
- Improved performance by 15% compared to university's baseline using UMAP and MDAAnalysis
- 04/2022 – 09/2022 **Bachelor Thesis: Parameter-Dependent Self-Learning Optimization** University of Stuttgart
- Developed a Learn-to-Optimize framework using RL (REINFORCE, PPO) to solve black-box problems
 - Demonstrated agent generalization to unseen parameter configurations in up to 10 dimensions

WORK EXPERIENCE

- 10/2025 – today **Working Student (AI/LLM)** Porsche AG
- Automated test case generation from hardware requirement specifications using LLMs and AWS
- 03/2024 – 08/2024 **Data Science Research Intern** Porsche AG
- Analyzed correlation of customer complaints and ECU faults in vehicles via Association Rule Discovery
- 10/2019 – 09/2020 **Teaching Assistant** University of Stuttgart
- Taught weekly tutorials in "Data Structures and Algorithms" and "Theoretical CS" for 60+ students

PROJECTS

- 10/2023 – 03/2024 **Blog Post: Mastering the Game of Go** University of Stuttgart
- Published technical breakdown of AlphaGo/AlphaZero concepts (MCTS, Deep RL) on GitHub Pages
- 04/2023 – 03/2024 **School For Talents** German Research Foundation
- Organized scientific workshops and keynotes about AI for 100+ students
- 10/2023 – 11/2023 **AI Incubator Batch #3 (Winner)** Cyber Valley & Carl-Zeiss-Stiftung
- Won "Business Model Award" for "VectisFinance", an AI-Fintech startup prototype

EXTRACURRICULAR ACTIVITIES

- 10/2023 – 09/2025 **AI Software Academy (AISA)** University of Stuttgart
- Certificate of Advanced Studies (18 ECTS) focusing on the intersection of AI and Software Engineering
- 11/2023 – 11/2024 **AI Career Kickstart Program** AppliedAI Institute of Europe
- Training on interdisciplinary topics like "ML Operations", "AI Regulations" and "ML Organizational Roles"

SKILLS & EXPERTISE

- **Reinforcement Learning:** PPO, SAC, DQN, MCTS, DynaQ+, Policy Gradients, Bandits, (PO)MDPs
- **Deep Learning Architectures:** Transformers (LLMs), Diffusion Models, GANs, Autoencoders, CNNs, RNNs, GNNs
- **Core Stack:** Python, PyTorch, TensorFlow, JAX, CUDA, Hugging Face, Scikit-learn, Pandas, NumPy
- **Languages:** German (Native), English (C1/Fluent)