Maximilian Schwalenberg

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EDUCATION

Universiteit Utrecht (Netherlands) *Graduated Aug. 2025*
Master of Science in Artificial Intelligence
Thesis: "Modelling relationships between neural responses and cortical organisation"
Excellent Grade

University of Rostock (Germany) *Graduated Apr. 2023*
Bachelor of Science in Computer Science
Thesis: "Height estimation of wind turbines using neural networks and the fusion of image and geoinformation" | Excellent Grade and several distinctions winning
Best Thesis Award at Fraunhofer IGD Computer Graphics Night 2023 and Best Bachelors thesis of the year at University of Rostock

TECHNICAL SKILLS

Programming: Python (advanced), C, JavaScript/TypeScript
Machine Learning: PyTorch, OpenCV, Transformers, RAG systems, Diarization
Software Engineering: React, Flask, Docker, Linux, SQL/NoSQL

WORK EXPERIENCE

MicroNova AG, (Munich/remote) *May 2024 – Dec. 2024*
Working Student for Digitalization | Software Development
- Used AI to automate business processes
- Built RAG-based contract analysis system (cutting manual review time)
- Developed diarization & RAG solution for audit talks with MS Word integration

Fraunhofer Institute for Computer Graphics Research, Rostock *Oct. 2021 – Jul. 2023*
Internship & Research Assistant
- Trained and evaluated deep learning models for classification, detection, and keypoints
- Contributed to applied AI projects in Computer Vision & Graphics research

University of Rostock, Computer Science Department *Apr. 2021– Nov. 2021*
Research Assistant
- Investigating the use of Variational Autoencoders for the task of density estimation
- Implementing a pipeline comparing different models performances in density estimation

PROJECTS

Brain Visualizer | React, Three.js, Flask, AI integration *Sep. 2025 – Present*
- AI integrated, interactive visualization of the brains regions and functionalities

Masters Thesis | Python, Matlab, Computational Neuroscience *Sep. 2024 – Aug. 2025*
- Deepening understanding how faces are represented by brain compared to AI models
- computational neuroscience: using mathematics, neuroscience, computer science, AI

Bachelors Thesis | Python, PyTorch, Remote Sensing *Nov. 2022 – Apr. 2023*
- Training a Deep Learning Model to estimate heights of wind turbines from aerial images outperforming existing approach directly impacting fAIRport project
- Utilizing geoinformation by applying data fusion & multi task learning

Various Uni Projects | Explainable AI, Evolutionary Algorithms *Oct. 2019 – Aug. 2025*
- Highlighting suspicious regions in Alzheimer classification on MRI images (Layerwise Relevance Propagation)
- Applying evolutionary algorithms to Graph Biparitioning problem – outperforming classic algorithms

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Languages: German (native), English (bilingual proficiency)