

Jonas Fischer

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Date of Birth: 18.09.2000



Profile

Passionate Informatics student focused on Deep Learning, Computer Vision, and Robotics, with hands-on experience applying Deep Learning in robotics at TUM and developing Machine Learning and GenAI solutions at Siemens Advanta. I aim to build scalable AI systems that transform research into practical innovation.

Education

Technical University of Munich

Master of Science in Informatics; Current GPA: 1.3

Munich, Germany

Oct. 2024 - Present

- **Specialization:** Deep Learning, Computer Vision, Robotics

University of Freiburg

Bachelor of Science in Computer Science; GPA: 1.3

Freiburg, Germany

Oct. 2020 - Jun. 2024

- **Specialization:** Machine Learning and Robotics
- **Bachelor Thesis:** Parameterized and Dynamic Gaussian Mixture Models for Robot Manipulation (Grade 1.0)

Working Experience

BMW

Working Student – Machine Learning for Mainframe Migration

Munich, Germany

Jan. 2026 - present

Siemens Advanta

Working Student – Advanced Analytics and Artificial Intelligence

Munich, Germany

Oct. 2024 - Dec. 2025

- **Machine Learning:** Analyzed 70,000+ projects using OpenAI embeddings, UMAP, and K-means clustering to identify strategic thematic patterns
- **GenAI:** Built and deployed a scalable RAG chatbot leveraging Azure OpenAI, LangChain, and Microsoft Graph API for automated governance and compliance information retrieval
- **Data Engineering:** Built automated SharePoint-to-Azure Search ETL pipelines with SQL monitoring for centralized document access

Freelancer

AI Engineer

Munich, Germany

Sept. 2025 - Present

- **GenAI:** Designed and deployed a customized RAG chatbot for *Good Goods Germany GmbH*, integrating LangGraph, ShopifyAPI, and Python for automated product recommendations (<https://www.annimally.de/>)
- **Data Engineering:** Developed automated Shopify data pipelines to detect and synchronize product updates
- **Cloud:** Orchestrated end-to-end deployment of the RAG system on Azure

University of Freiburg

Student Assistant – Graph Theory

Freiburg, Germany

May 2024 - Sep. 2024

- **Teaching:** Conducted tutorials and graded assignments and exams

Fraunhofer Institute for High-Speed Dynamics

Research Assistant

Freiburg, Germany

Jun. 2023 - Feb. 2024

- **Software Engineering:** Expanded a nanosatellite simulation framework in Python to model orbital mechanics and trajectory tracking
- **Data Analytics:** Conducted analysis with Pandas and NumPy to improve simulation accuracy and performance metrics

- **Teaching:** Conducted tutorials and graded assignments and exams

Example Academic Projects

Self-Supervised Learning for Tactile Classification – PyTorch, Google Cloud, Deep Learning

- Compared multiple self-supervised learning architectures (JEPAs, MAE, AE) for tactile classification.
- Introduced SSL for tactile classification, achieving a 3% improvement in accuracy on CNN baseline.
- Demonstrated the effectiveness of predictive representation learning for tactile perception tasks.
- Code: <https://github.com/JonasEtFi/SSL-for-Tactile-Classification>

Reinforcement Learning for Smart Grids – PyTorch, OpenAI Gymnasium, Weights & Biases

- Developed a Multi-Objective Reinforcement Learning framework with Pareto Conditioned Networks.
- Enabled dynamic trade-offs between energy efficiency and safety in smart grid control.
- Code: <https://github.com/JonasEtFi/fork-commonpower-MORL/pull/1>

Technical Skills

ML/AI Frameworks: PyTorch, Scikit-learn, Huggingface VAE's, Stable Baselines3, XGBoost

GenAI & LLMs: LangChain, LangGraph, OpenAI API, RAG systems, Embeddings

Programming Languages: Python, SQL, C#

MLOps & Cloud: Azure, Google Cloud Engine, Docker, Git, Weights & Biases

Data Stack: NumPy, Pandas, Matplotlib, Seaborn, Flask, Microsoft GraphAPI

General Skills

Languages: German (native), English (fluent, C1)

Soft Skills: Team-oriented and self-motivated, with strong problem-solving, communication, and independent working skills

Other Activities

TUMVision: Member of a student club discussing state-of-the-art Computer Vision papers weekly

Sports: Field hockey at HC Wacker Munich, Hyrox

Hockey Coach: Player coach of the FT Freiburg men hockey team during the 2023/2024 season

Barista: Three years of experience working as a barista

Munich, 5.1.2026