

Jonas Fischer

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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 <i>Master of Science in Informatics; Current GPA: 1.3</i> <ul style="list-style-type: none">• Specialization: Deep Learning, Computer Vision, Robotics	Munich, Germany <i>Oct. 2024 - Present</i>
University of Freiburg <i>Bachelor of Science in Computer Science; GPA: 1.3</i> <ul style="list-style-type: none">• Specialization: Machine Learning and Robotics• Bachelor Thesis: Parameterized and Dynamic Gaussian Mixture Models for Robot Manipulation (Grade 1.0)	Freiburg, Germany <i>Oct. 2020 - Jun. 2024</i>

Working Experience

BMW <i>Working Student – Machine Learning for Mainframe Migration</i>	Munich, Germany <i>Jan. 2026 - present</i>
Siemens Advanta <i>Working Student – Advanced Analytics and Artificial Intelligence</i> <ul style="list-style-type: none">• 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	Munich, Germany <i>Oct. 2024 - Dec. 2025</i>
Freelancer <i>AI Engineer</i> <ul style="list-style-type: none">• GenAI: Designed and deployed a customized RAG chatbot for <i>Good Goods Germany GmbH</i>, 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	Munich, Germany <i>Sept. 2025 - Present</i>
University of Freiburg <i>Student Assistant – Graph Theory</i> <ul style="list-style-type: none">• Teaching: Conducted tutorials and graded assignments and exams	Freiburg, Germany <i>May 2024 - Sep. 2024</i>
Fraunhofer Institute for High-Speed Dynamics <i>Research Assistant</i> <ul style="list-style-type: none">• 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	Freiburg, Germany <i>Jun. 2023 - Feb. 2024</i>

- **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 (JEPA, 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