MARCEL HUBER

AI Software Engineer

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Profile

AI Software Engineer with hands-on experience developing **LLM-powered applications, agentic systems and backend integrations** in product and research environments. Strong background in **Python, APIs, tool calling, context retrieval, evaluation and failure analysis**, with experience taking ambiguous AI problems from experimentation to implemented workflows and systematically improving reliability. Used to working across **AI behavior, software integrations, data pipelines and product requirements**, with a strong interest in building dependable AI systems where correctness, observability and robust failure handling matter.

Technical Skills

Programming: Python, SQL, Java, REST APIs, JSON
AI & LLM Systems: LLM APIs, Agentic Systems, Tool Calling, Custom Tools, Prompt Engineering, Context Retrieval, Embeddings
Evaluation & Reliability: Automated Evaluation, Agent Benchmarking, Failure Analysis, Model Evaluation, Experiment Design, Iterative Testing, Error Handling
Machine Learning: PyTorch, TensorFlow, BERT, Diffusion Models, Computer Vision, Deep Learning
Backend & Data: PostgreSQL, Data Pipelines, Software Integrations, Workflow Automation, n8n
Infrastructure & Tools: Docker, Linux, Proxmox, Git, GitHub, Claude Code, Streamlit, Gradio, pandas, NumPy
Languages: German (Native), English (C1)

Experience

Mimirio **Linz / Remote**
Generative AI Data Scientist / Software Engineer *November 2025 – May 2026*

- Designed and implemented **LLM-powered agent workflows** using Python, tool calling, custom tools and iterative execution loops for enterprise software use cases.
- Built an **agentic Jira integration** that allowed users to reference tickets directly in conversations and automatically supplied relevant ticket information to downstream AI workflows.
- Developed multiple **context retrieval strategies**, including full-document ingestion and selective retrieval, evaluating trade-offs between information completeness, context-window usage and downstream agent behavior.
- Developed integrations with **Microsoft SharePoint** enabling AI workflows to retrieve and process enterprise documents and internal knowledge sources.
- Built and iterated on **custom agent tools, API integrations and orchestration logic**, with emphasis on structured interfaces, predictable execution, error handling and maintainability.
- Analyzed **agent traces, tool usage and failure modes** to identify contributing factors behind unsuccessful executions and improve system behavior through reproducible testing.
- Benchmarked AI workflows using repeatable test cases to measure **task completion, reliability and model behavior**, identify regressions and guide technical improvements.
- Worked closely with **product, engineering and founding teams** to translate user requirements and observed product failures into concrete AI and software improvements.

Medical University of Vienna **Vienna**
Student Researcher – Generative AI *November 2024 – September 2025*

- Developed end-to-end generative AI pipelines for counterfactual analysis of OCT retinal images using **Python, PyTorch and diffusion models**.
- Designed and executed large-scale deep-learning experiments, including **dataset processing, automated evaluation, experiment tracking and quantitative analysis**.
- Investigated model behavior and failure cases through controlled experiments, translating experimental results into **model and pipeline improvements**.

WEB Windenergie AG **Pfaffenschlag**
Energy Data Management & Innovation Intern *August 2024 – September 2024*

- Identified and automated a recurring operational workflow, saving approximately **half a workday every week**.
- Developed Python software for **automated data retrieval, transformation and recurring operational processes**.

- Worked with **PostgreSQL, Raspberry Pi and Linux infrastructure**, improving database structures and system reliability.
- Implemented backup procedures and technical documentation to improve data integrity and operational continuity.

Linz Institute of Technology (LIT) **Linz**
JKU Fellowship *April 2024 – May 2024*

- Designed SQL-backed data structures and developed a recommendation system using **BERT embeddings and Python**.
- Investigated LLM-based processing of PDF documents for automated conversion into accessible formats.

Selected Projects

Woodquarter Labs – Parametric Modeling Platform **Co-Creator**

- Co-developing a browser-based **parametric modeling product** that converts user-controlled parameters into production-ready 3D-printable geometry.
- Own the **parametric geometry and procedural modeling logic**, translating product requirements and configurable inputs into robust generated outputs.
- Iterate the product based on **real-world usage, observed failures, physical testing and community feedback**, turning concrete user problems into product improvements.

Self-Hosted Infrastructure **Personal Project**

- Build and operate a **Docker- and Proxmox-based Linux environment** hosting multiple persistent applications and services.
- Configure and troubleshoot **networking, storage, backups, containers and secure remote access** across multiple systems.
- Maintain services with an emphasis on **reliability, recoverability and operational troubleshooting**.

MICCAI Medical Imaging Challenge Finalist **2024**

- Finalist in the **MARIO Challenge at MICCAI 2024**; developed an AI-based medical imaging approach and presented the team's work at the conference in Marrakech.

Education

Johannes Kepler University **Linz**
M.Sc. Artificial Intelligence – Grade Average: 1.6 *October 2023 – Expected November 2026*

- **Master Thesis:** Counterfactual OCT Image Generation using Diffusion Models, in cooperation with the Medical University of Vienna.

Johannes Kepler University **Linz**
B.Sc. Artificial Intelligence – Grade Average: 1.9 *October 2020 – September 2023*

Awards

1st Place – Danube Dynamics Image Segmentation Challenge
- **3rd Place** – AI Cloudflight Coding Contest, JKU