KAVITHA LINGARAJEGOWDA

Graduate Engineer
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Chemnitz, Saxony, Germany (**Open to Relocation)**

PROFESSIONAL SUMMARY

Junior AI Engineer with hands-on experience designing and operating **end-to-end AI systems** using **Python**, **PyTorch**, and **Generative AI**, with a strong focus on **LLM-based research** and applied projects. Experienced in building **scalable data pipelines**, **model pipelines**, **RAG workflows**, and supporting **MLOps** practices such as **deployment**, **monitoring**, and **continuous model improvement** in **cloud-based environments**. Motivated to contribute to **robust**, **scalable foundation-model platforms** while deepening expertise in **distributed training**, **GPU-enabled systems**, and **production-grade AI services**.

RELEVANT SKILLS

Programming: Python, SQL
ML/DL: PyTorch, Machine Learning, NLP
Generative AI: LLMs, RAG, AI Agents
Data & Pipelines: Data Preprocessing, ETL Pipelines, Feature Engineering
Evaluation & MLOps: Model Evaluation, Experiment Tracking, Monitoring, CI/CD
Frameworks & Tools: Hugging Face, LangChain, Git
Cloud & Platforms: AWS, Azure, GCP
Languages: English C1 Advanced, German B1 Intermediate

PROFESSIONAL EXPERIENCE

Master's Thesis *October 2025 - March 2026 (Current)*
Chemnitz University of Technology, Germany

- Built an end-to-end **Python-based** LLM grading and feedback system for **300+ real exam answers**, replacing manual evaluation workflows with a reliable, automated solution
- Achieved **~96% exact agreement** with human graders on structured exam tasks, demonstrating **scalable and consistent evaluation behavior** on real academic data
- Engineered **agent-driven evaluation pipelines** with **fully deterministic outputs**, ensuring reproducible, auditable results aligned with best practices for reliable system design
- Implemented **Retrieval-Augmented Generation** using lecture material and rubrics to ground model reasoning and reduce ambiguity in **API-style evaluation workflows**

AI/LLM Research Internship *September 2024 – September 2025*
Professorship of Media Encoding, Chemnitz University of Technology, Germany

- Designed a **Python-based evaluation workflow** to analyze LLM behavior on **1000+ real Computer Vision exam responses**, supporting systematic experimentation across multiple scenarios
- Iteratively engineered and validated **12 prompt variants**, improving instruction-following accuracy and partial-response handling through structured testing and refinement
- Built an **evaluation harness** combining quantitative metrics and qualitative **error analysis**, enabling troubleshooting of failure modes and consistent prompt behavior
- Benchmarked **3 foundation models** by analyzing response patterns and prompt sensitivity, supporting informed model selection for **applied AI systems**

Bar Service & Waitress *May 2023 – Current*
Pelzmühle Restaurant, Germany

- Delivered reliable service to **300+ guests per day** in a **high-volume environment** while **strengthening conversational German in a professional setting** through daily customer interactions and workplace communication

Software Development Working Student *October 2020 – August 2022*
iQuest Technologies, Mysore, India

- Built **Python-based data processing and ETL workflows** to prepare structured datasets, improving data accuracy and content reliability by **40%**
- **Debugged and stabilized backend and API-driven modules**, reducing recurring pipeline execution failures by **20%** and improving system reliability
- Collaborated with senior engineers to refine requirements, optimize data paths, and improve **performance and scalability**, lowering production defects by **15%**
- Supported **agile development cycles** through testing, validation, and **technical documentation**, contributing to faster and more reliable feature deployments

PROJECTS

1. Secure Document Summarization using RAG and LangChain

- Solves the problem of **secure knowledge access and summarization** for internal documents while protecting sensitive data
- Built a **retrieval-augmented generation pipeline** using LangChain, embeddings, chunking, and access-controlled retrieval to enable **reliable, enterprise-ready AI workflows**

2. Agentic Workflow Design Patterns using LangGraph

- Addresses the challenge of building **controllable and maintainable AI systems** for complex decision flows
- Designed **deterministic agentic pipelines** with routing, conditional logic, parallel execution, and state management using LangGraph for **scalable AI system orchestration**

EDUCATION

Chemnitz University of Technology, Germany *October 2022 – March 2026 (Current)*
Degree: M.Sc. in Automotive Software Engineering

PES Institute of Technology & Management, India *August 2018 – July 2022*
Degree: B.Eng. in Computer Science & Engineering
Bachelor's Thesis: Developed an Internet of Things (IoT) and Machine Learning (ML) system using Random Forest, Gradient Boosting, and SVM to optimise crop monitoring and resource management

CERTIFICATIONS

- SAP Generative AI Developer- SAP, 2025
- Introduction to Transformer-Based NLP - NVIDIA, 2025
- Cloud Computing 101 – AWS Educate, 2025
- Software Engineer & Python – HackerRank, 2025