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Fraunhofer IAIS

Application for Student Assistant Position - Software Development for Agent Systems

The opportunity to contribute to agentic AI systems development at Fraunhofer IAIS aligns directly with my specialized experience in building production-grade multi-agent architectures. Currently pursuing MSc Data Science at TU Braunschweig while maintaining active research in agentic systems, this position represents an ideal convergence of academic progression and practical application of LLM-based agent frameworks.

- Built hierarchical multi-agent systems using LangGraph and LangChain, including a biomedical research assistant with 5 coordinated agent teams achieving 94% metric extraction accuracy. Designed supervisor agents managing code generation, RAG, web search, and memory orchestration with deterministic state control and asynchronous execution patterns.

- Developed agent-driven content automation pipelines that autonomously script, edit, and publish video content, reducing production time by 20x while maintaining sub-$0.15 cost per output. This demonstrates practical experience in LLM-based agent systems for real-world applications beyond research prototypes.

- Implemented ReWOO-style multi-agent architecture with hybrid RRF-RAG, achieving 5x token efficiency and 4% improvement in complex reasoning tasks. Experience spans foundation model integration, prompt optimization, and DevOps deployment using Docker and CI/CD pipelines on GCP infrastructure.

- Research background includes publications in robotic systems and hands-on experience with TensorFlow, PyTorch, and scikit-learn for ML model development. Proficient in German (A1) with strong technical communication skills in both German and English for interdisciplinary collaboration.

The Knowledge Discovery department's focus on trustworthy AI and innovative LLM applications matches my systematic approach to building scalable, production-ready agent systems. My experience in developing autonomous AI workflows, combined with ongoing academic research, positions me to contribute effectively to prototype development and literature evaluation while advancing my expertise in generative AI and multi-agent systems within Fraunhofer's research environment.

Warm regards,

Aditya Ghanashyam Ladawa