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FORVIA HELLA

Application for Internship/Master-Thesis: Development of Generative AI for Radar Signal Simulation

I am writing to express my strong interest in the Internship/Master-Thesis: Development of Generative AI for Radar Signal Simulation position at FORVIA HELLA, as advertised. My background as an AI and backend engineer, coupled with a focus on scalable system development and practical application of generative AI, aligns directly with the requirements for researching and developing innovative AI methods for realistic raw radar data simulation.

- My experience includes developing and deploying generative AI models, specifically using CycleGAN and Real-ESRGAN for complex medical image processing. This involved harmonizing MRI scan sequences and achieving super-resolution upscaling, demonstrating a practical understanding of adapting and training generative models for high-fidelity data synthesis, directly applicable to raw radar signal generation.

- As a Research Assistant at TU Braunschweig, I built an agent-based AI assistant for biomedical literature, which required extensive literature research, analysis of existing methods, and the development of robust AI systems. This experience in systematic research and building functional AI solutions prepares me for the research, development, and evaluation tasks outlined for this role.

- My engineering approach emphasizes system ownership, automation, and production readiness. I prioritize building robust, testable, and scalable solutions, ensuring that developed models are not only theoretically sound but also rigorously implemented and evaluated against real-world data, aligning with the need to compare generated data with real measurement results and assess quality.

- I possess expert-level proficiency in Python and practical experience with PyTorch, alongside a solid understanding of Deep Learning methodologies and generative models. My work extends to integrating these models into end-to-end pipelines, ensuring tight control over memory and pipeline flow for optimal performance.

My commitment to building high-throughput, durable systems and my specialized experience in generative AI and robust backend engineering make me a strong candidate for this role. I am eager to contribute to FORVIA HELLA's advancements in radar signal simulation and am available for an interview to discuss how my skills can benefit your team.

Warm regards,

Aditya Ghanashyam Ladawa