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Dear Hiring Manager,

I am writing to apply for an AI Research position. I am a final-year Computer Science student at the University of Indonesia with research experience at NVIDIA, where I investigated the theoretical and empirical properties of sequence architectures, and I am eager to bring that same rigor to your research team.

As an AI Research Intern at NVIDIA, I evaluated non-Transformer recurrent architectures (RWKV-v4 and RWKV-v7) against Transformers, LSTMs, and GRUs for formal regular language expressivity, and implemented a custom CUDA C++ WKV operator in PyTorch to accelerate recurrent state transition computations. To probe model decision boundaries rigorously, I designed synthetic formal-language benchmarks spanning parity counting, substring matching, and language unions, augmented with edit-distance hard-negative perturbations — work that required precise experimental design as much as implementation skill. Earlier, as part of the Indonesia AI x OMDENA Forest Fire project, I curated and normalized multi-source environmental datasets and fine-tuned predictive models for early wildfire risk detection.

This research instinct extends into my independent and competition work: I fine-tuned IndoBERT for Indonesian clickbait headline classification (Top 10 Finalist, Gemastik 2023), and built a multimodal architecture fusing BERT, Whisper, and VAD features via ViT-LSTM for emotion detection, achieving 99.71% public leaderboard accuracy at Satria Data 2025. I am comfortable working across the research stack — from formal problem framing and benchmark design to CUDA-level implementation — in Python, PyTorch, TensorFlow, and Hugging Face.

I would welcome the opportunity to discuss how my background in architecture benchmarking, systems-level implementation, and applied model research could contribute to your research agenda. Thank you for your time and consideration.

Sincerely,
Darrel Danadyaksa Poli