Risan Raja

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To whom it may concern:

With over four years of experience in developing and implementing innovative machine learning solutions, coupled with a strong aptitude for problem-solving in dynamic environments, I am confident I possess the skills and passion to significantly contribute to your research team.

My recent experience as an ML and Computer Vision Researcher at IIT Madras, has provided me with invaluable experience in tackling complex research challenges within the neuroscience domain. Crucially, I designed and implemented an end-to-end ETL pipeline using Dask and PyTorch, achieving an impressive throughput of 100K patches per second for asynchronous streaming of large histological images for deep learning model training. This highlights my proficiency in building scalable and efficient data processing systems critical for research environments.

My technical prowess spans the entire machine learning lifecycle, encompassing the design and implementation of scalable data pipelines capable of handling massive datasets, advanced model development and optimization utilizing state-of-the-art architectures including transformers and techniques like fine-tuning and resource minimization, and robust model deployment strategies leveraging containerization and cloud platforms. I possess hands-on experience with building high-throughput ETL pipelines, developing and optimizing models for tasks ranging from image processing to natural language understanding, and deploying these solutions for high-performance serving. Furthermore, I have contributed to the development of RAG based systems and code generation tools, showcasing my ability to build intelligent systems that enhance research workflows.

Undertaking technical projects, such as redesigning the Temporal Fusion Transformer to outperform the original Kaggle challenge solution and optimizing the NAVER SPLADE model for efficient resource utilization, further demonstrate my commitment to pushing the boundaries of machine learning. My achievements in AI Hackathons, including a First Place win for creating an AI Agent for high-resolution photography enhancement using Reinforcement Learning, and top rankings in WorldQuant Alpha Challenge, solidify my competitive drive and innovative problem-solving capabilities.

I am confident that my research-oriented mindset, proven ability to develop and implement innovative ML solutions, and strong technical skills align perfectly with the requirements of this Machine Learning Engineer position. Please feel free to email me at risan.raja@icloud.com or call me at 963-332-6718.

Sincerely,

Risan Raja