

[Name]

[Address]

[Phone Number]

October 15, 2024

Via FedEx

USCIS ATTN: I-140 National Interest Waiver

Re: Statement of Intent to Continue Leveraging My Expertise At The Intersection Of AI and Large Language Models, to build reliable, trustworthy, and efficient AI systems that empower U.S. businesses to confidently adopt these innovations

Dear Sir or Madam:

Thank you for considering my request for a National Interest Waiver.

I am an experienced Machine Learning Engineer specializing in the development of advanced artificial intelligence (AI) systems, with particular expertise in Large Language Models (LLMs), Natural Language Processing, and Knowledge Graphs. I am committed to advancing the development of AI systems that prioritize ethical considerations, safety, and sophisticated reasoning capabilities. The field of AI, particularly the development of safe and reliable LLMs, is of critical importance to the United States' technological leadership and economic competitiveness. Without proper safety mechanisms and controls, the direct deployment of general-purpose AI in businesses can lead to serious risks including data breaches, biased decision-making, and the exposure of sensitive corporate information, potentially resulting in significant financial and reputational damage. As nations worldwide race to develop AI capabilities, the U.S. must maintain its competitive edge through the development of trustworthy AI systems that businesses can confidently deploy. My work in memory-augmented LLMs and safe AI systems directly contributes to this national priority by enabling more efficient, controllable, and reliable AI solutions.

My expertise in AI and machine learning has been developed through a combination of academic excellence and industry experience at prestigious institutions. Currently, as a founding Machine Learning Engineer at [Company A], a venture-backed company, I play a pivotal role in developing advanced AI systems tailored to meet the dynamic needs of businesses. I've successfully implemented distributed training infrastructure across multiple Graphics Processing Units (GPUs) and developed sophisticated synthetic data generation pipelines for memory-augmented LLMs. These techniques enhance the models' ability to remember and use previous data efficiently, which is crucial for learning and adapting over time. By implementing these memory enhancements, we significantly cut down on the computational power needed to train and run these models. This not only makes the operation more cost-effective but also gives

businesses greater oversight and control over their AI systems. Moreover, it increases the safety of these systems by ensuring they use only relevant and secure data, adhering to the highest standards of data integrity and reliability. Each step in this process is designed to build AI systems that are not only more effective and economical but also align perfectly with ethical guidelines and reliability standards.

Prior to this, at [Company B], I built Machine Learning-as-a-service solutions and extended them to Generative AI (GenAI) product suites powering Retrieval Augmented Generation(RAG) based customer support solutions. This experience demonstrates my ability to develop scalable AI systems, a crucial aspect of creating trustworthy and reliable AI technologies for widespread adoption. At [Company C], one of the largest banks in Europe and globally by total assets, I developed critical Named-Entity Resolution solutions for financial transactions and researched fraud detection using Graph AutoEncoders. This work showcases my expertise in applying AI to complex real-world problems, further supporting my goal of creating AI systems that can be confidently deployed across various industries. As the founding engineer at [Company D], I was involved in cutting-edge applications of Knowledge Graphs and Relation Extraction. [Company D] specialized in utilizing unstructured enterprise data, dark data, to deliver key insights to businesses using AI and was acquired by a major technology company. This experience laid the foundation for my current focus on developing advanced agentic systems that leverage LLMs for enhanced reasoning and decision-making. This industry expertise is built upon a strong academic foundation, including a Master's degree in Data Science from [University], a prestigious institution consistently ranked among the top 5 universities globally, where I served as a Teaching Assistant for graduate-level courses in Recommendation Systems, Natural Language Processing and Applied Machine Learning.

Moving forward, I intend to continue advancing the field of safe and efficient AI systems through several key initiatives. First, I plan to further develop memory-augmented LLM architectures that can significantly reduce computational costs while maintaining or improving performance. Second, I aim to create novel evaluation frameworks that can better assess and ensure AI system safety and reliability. Third, I will work on developing improved methods for synthetic data generation that can enhance model training while reducing reliance on potentially problematic datasets. I plan to pursue these contributions through employment with leading AI research organizations and eventually through entrepreneurial ventures developing new AI solutions.

My unique combination of top-tier education and diverse industry experience positions me to make substantial contributions to the United States' interests in AI development. Through my work, U.S. businesses will gain access to more efficient and controllable AI systems, reducing deployment costs and accelerating responsible adoption across critical sectors like healthcare and finance. My focus on safety and environmental sustainability through memory-augmented LLMs will help maintain U.S. leadership in ethical AI innovation. Given the significant visa backlog for highly skilled professionals from [Country], granting this National Interest Waiver would enable me to more immediately contribute to these pressing national priorities in AI development. Accordingly, I respectfully request that you grant my National Interest Waiver Petition.

Thank you for your time and attention.

Very truly yours,

[Name]