Dear Alok,

I hope this message finds you well. I am writing to express my sincere interest in the ML Engineer / Data Scientist role at Scry AI. After a recent conversation with Mr. Aravind Ram Nathan at the USC Career Fair, my enthusiasm for joining your team has grown immensely. Aravind and I discussed the company culture and the exciting work being done at Scry AI, which has reinforced my desire to pursue a career with you. He also thinks that I have the potential to be a great candidate for this position and that I should contact you asap. With my background in computer science, ML research, and passion for developing robust intelligent systems, I am confident I would make a valuable addition to your team. Moreover, since Scry AI is looking for co-op interns and I am available for co-op starting January 2024 and full-time starting May 2024, I would love the chance to present myself in an interview.

My academic and professional experiences align well with the responsibilities and qualifications for this role. As a graduate student at the University of Southern California, I have taken advanced courses covering topics like foundations of AI, deep learning, computer vision, and natural language processing. Moreover, through my research experience, I have hands-on experience building end-to-end data pipelines, training deep learning models, and deploying them into production. For example, this year at USC ISI, I developed a novel food image to recipe generation system using GPT, BLIP and Vision Transformers and wrote a detailed paper on it for WACV 2024. I also led development of a healthcare question answering system published in ACL BioNLP’23, ensuring training data privacy using differential privacy. My passion for research in AI started during my undergraduate days at NIT Durgapur, where I contributed to diverse projects ranging from Intelligent Fire alarms to Underwater Image Enhancement systems, which eventually crystallized into publications. These projects have enhanced my ability to leverage frameworks like PyTorch and Tensorflow to build and deploy state-of-the-art technologies, such as DNNs, GANs, LSTM, transformers, and large language models, to build AI systems that solve real-world problems.

As course and passion projects, I have built neural networks, ranging from MLP to CNN, RNN, hidden Markov models, evolutionary models, gameplaying algorithms, and various other AI frameworks ground up. For instance, I have designed and implemented multilayer perceptron and convolutional neural networks using only NumPy and Python. Creating key components like convolutional layers, pooling, dropout, and regularization from scratch has led me to understand how the math behind it works. I have built HMM/Viterbi Decoding for POS tagging and RNN/GRU/LSTM for sentiment analysis and BLSTM for NER tagging in my NLP classes. These hands-on experiences have not only improved my technical skills but has also provided me with valuable insights into the inner workings of these models and empowered me to customize AI architectures to suit novel applications effectively. I also have experience with MLOps processes and cloud deployment strategies using services like AWS and GCP, HPC, remote GPU servers, as well as serverless GPUs like beam.cloud. My background in computer vision and experience working with healthcare data make me well-suited for this role developing solutions for medical imaging applications.

In addition to machine learning, I have also worked on data mining, web scraping and data cleaning and analytics. One of my responsibilities at USC ISI is to write scripts using Python, Selenium, BeautifulSoup and SQL to automate data collection at scale. This process has taught me patience, reverse engineering and problem solving. I learned to understand the flow of dynamic websites and asynchronous programming. I also learned to normalize and save data efficiently. I believe the skills I learned from these experiences will be valuable at Scry AI.

I am drawn to this opportunity because of my passion for translating cutting-edge research into real-world systems. Scry AI’s mission to build data driven enterprise solutions aligns with my passion. I would welcome the chance to collaborate with your talented cross-functional team, especially the experienced ML engineers. Building robust infrastructure to enable Scry AI's downstream applications would be an immensely fulfilling opportunity.

In closing, I am excited by the prospect of joining Scry AI as a Machine Learning Engineer or Data Scientist. Thank you for your time and consideration. I look forward to discussing my qualifications further.

Sincerely,

Dhiraj Chaurasia