Truong Giang Nguyen

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SUMMARY

Machine Learning Engineer with 4+ years of experience designing, building, and deploying impactful AI solutions across retail, e-commerce, and healthcare. Proven expertise in NLP (LLM fine-tuning, RAG, chatbots), Computer Vision, and anomaly detection. Skilled in developing end-to-end ML pipelines on cloud platforms (AWS, Google Cloud) and proficient in Python, SQL, TensorFlow, and PyTorch. Eager to leverage diverse AI/ML skills to drive innovation and business value.

WORK EXPERIENCE

AI Engineer | **Seedcom R&D, Vietnam (Remote)** | **Nov 2020 - Oct 2024**

Developing AI-Powered Solutions for Retail and E-Commerce.

- Engineered a Vietnamese recipe recommendation system combining Retrieval-Augmented Generation (RAG) and chatbot, utilizing users' basket history to provide tailored culinary suggestions and enhance user engagement.
- Designed, built, and automated end-to-end Machine Learning pipelines on Google Vertex AI for tasks like competitor price mapping, utilizing CI/CD practices (GitLab CI, Airflow) for robust, automated deployment and achieving 95% accuracy.
- Developed and deployed a personalized notification system leveraging LLM fine-tuning (LoRA), managing the deployment process via automated CI/CD pipelines (GitLab CI, Airflow) to ensure resilience and scalability, significantly increasing user retention.

Data Scientist | **Northumbria University, UK** | **Jan 2023 - July 2023**

Researching and Developing Solutions for Parkinson's Disease Treatment

- Utilized statistical methods and built predictive machine learning models (random forests, logistic regression) in Python to analyse the effectiveness of wearable/smartphone cues for drooling treatment in Parkinson's Disease patients.
- Developed a personalized treatment schedule prediction system using AWS SageMaker, achieving 65% accuracy (F1-score) in predicting optimal cue usage times, incorporating model selection and hyperparameter tuning techniques.
- Implemented data pipelines with AWS Glue and S3 for processing and validating large-scale sensor data (1,000+ sensors) from 1,600 Parkinson's Disease patients, ensuring data integrity via thorough checks.

Machine Learning Engineer | **Emage Development Pte. Ltd., Vietnam** | **Jul 2019 - Jul 2020**

Building and Deploying Computer Vision Solutions for Defect Detection

- Developed and deployed a high-availability ML model for defective semiconductor detection using TensorFlow and OpenCV, leveraging AWS EC2 for cloud deployment and Docker for containerization.
- Successfully deployed the ML model onto factory floor computers, optimizing it for low-latency inference (0.2 sec/image) and demonstrating experience with edge/on-premise deployment scenarios.

TECHNICAL SKILLS

- **Programming Languages:** Python, R, C++, C#, MATLAB, SQL
- **Cloud Platforms:** AWS, Google Cloud
- **Frameworks & Libraries:** TensorFlow, PyTorch, Scikit-learn, OpenCV, Pandas, Spacy.
- **Tools:** Git, BigQuery, UNIX

PROJECT EXPERIENCE

Large Language Model Fine-Tuning for Medical Text Summarization **2024**

- Leveraged Low-Rank Adaptation (LoRA) and deep learning optimizers to efficiently fine-tune Large Language Models for summarizing doctor-patient conversations, improving accuracy threefold.
- Implemented model parallelism for distributed training across multi-GPU setups, significantly reducing processing time and optimizing resource utilization.

Retrieval-Augmented Generation (RAG) Agent with Llama & LangGraph **2023**

- Developed an advanced RAG agent utilizing Llama3 and LangGraph, integrating vector embeddings for efficient knowledge retrieval from external sources to enhance question-answering capabilities.
- Implemented sophisticated agentic logic including routing, web search integration, and self-correction mechanisms to improve response accuracy and mitigate hallucination.

EDUCATION

Northumbria University, UK **Jan 2022 – July 2023**

Master of Science (MSc) in Data Science (Distinction)

- **Dissertation topic:** Assessing the Effectiveness of Wearable and Smartphone Cues for Drooling in Parkinson's.

Ho Chi Minh City University of Technology, Vietnam **Sep 2015 – Jun 2020**

Bachelor of Engineering (BEng) in Electrical and Electronic (2.1)

- **Thesis topic:** Apply Generative Adversarial Networks (GANs) to Image Super-Resolution.