VU TRONG CHAU

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Machine Learning and AI Engineer with a strong foundation in LLMs, NLP, and MLOps, experienced in building production-ready AI systems from data pipelines to deployment. Proven ability to translate complex data into scalable, real-world solutions.

EDUCATION

Troy University — **Troy, AL**
Master of Science in Computer Science - Artificial Intelligence | GPA: 3.5 — July 2025

Key Courses: Analysis of Algorithms, Computer Architecture, Machine Learning, Advanced Artificial Intelligence, Data Visualization.

University of Sunderland — **Sunderland, UK**
Bachelor of Engineering in Electronic and Electrical Engineering | UK 2:1 Honours (3.5 GPA equivalent) — July 2021

Key Courses**:** Embedded systems, Electronic Circuits and Devices, Electrical Power, Electronic Systems, Manufacturing System Design.

SKILLS

Programming Languages: Python, R, C/C++, JavaScript, SQL

Machine Learning & AI: LLMs, RAG, NLP, Deep Learning, CNNs, RNNs, XGBoost

Frameworks: PyTorch, TensorFlow, Scikit-learn, LangChain, HuggingFace

MLOps & Cloud: Docker, Kubernetes, CI/CD, MLflow, Airflow, FastAPI, AWS, Azure ML

Data Engineering: Pandas, NumPy, D3.js, Tableau, ETL pipelines, Data Warehousing

WORK EXPERIENCE

TELUS Digital | *AI Model Evaluation & Data Support Engineer* — Dec 2025 – Present

- Evaluate and validate NLP and LLM outputs by analyzing semantic relevance, intent classification, and contextual accuracy.
- Perform structured error analysis to identify model failure patterns, data quality issues, and edge cases impacting AI system performance.
- Support supervised and reinforcement learning workflows by delivering high-quality labeled and validated datasets.
- Follow detailed technical documentation and quality guidelines to ensure consistency across AI data workflows while troubleshooting data and model evaluation issues in a remote environment.

Techtronic Industries (TTI) | *Advance Process Engineering (APE) Engineer* — Aug 2021 – Dec 2023

- Led data-driven process optimization for high-volume manufacturing lines, improving yield, cycle time, and defect rates through statistical analysis.
- Built structured datasets from sensor data, equipment logs, and quality metrics to support root cause analysis and trend detection.
- Applied regression analysis, Design of Experiments (DOE), and multivariate techniques to identify key process drivers and validate improvements.
- Developed Python-based tools and dashboards to automate KPI tracking and engineering analysis.

PROJECTS

Healthcare Chatbot | *Python, Flask, LangChain, FAISS, PyTorch, FastAPI, Docker, CI/CD* — Sep 2025 – Present

- Design and deploy an LLM-powered healthcare Q&A chatbot using RAG on 250,000+ medical records.
- Built an automated MLOps pipeline using CI/CD, Docker, and FastAPI, reducing deployment cycle time by 40%.
- Integrate FAISS vector search and optimized prompts, improving retrieval accuracy by 25%.

Threat Detection using Machine Learning | *Python, Scikit-learn, XGBoost, Flask, Pandas, NumPy* — Jan 2025 – July 2025

- Developed multiple ML models (Logistic Regression, XGBoost, Random Forest, Naive Bayes), achieving 92% accuracy on 72,000+ labeled texts.
- Engineered semantic, syntactic, and sentiment features, increasing classifier performance by 15%.
- Built a real-time moderation interface using Flask, generating severity scores and reducing review time by 40%.

Global Population Prediction | *Python, Pandas, NumPy, D3.js, ETL Pipelines, Data Visualization, Flask* — Jan 2025 – May 2025

- Forecasted population trends (1960–2023) for 200+ countries using ML models achieving <2% MAE.
- Built interactive dashboards (choropleth, line charts, bar charts) to improve researcher usability and insight discovery.
- Implemented scalable data-refresh pipelines using Python and D3.js, reducing manual update effort by 60%.

Sleep Quality Prediction | *Python, Scikit-learn, TensorFlow, CNNs, RNNs, Flask* — Sep 2024 – Dec 2024

- Developed machine learning and deep learning models (Logistic Regression, Random Forest, CNNs, RNNs) to predict sleep quality from 70,000+ lifestyle and biometric records, improving precision by 20% over baseline.
- Created a real-time prediction interface via Flask, providing personalized recommendations to users.

CERTIFICATIONS

LLM Application Engineering and Development | **Simplilearn** — Oct 2025

Data Science Methodology | **IBM** — Sep 2025

Generative AI with Large Language Models | **DeepLearning.AI** — Sep 2025