

VU TRONG CHAU

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EDUCATION

Troy University

Master of Science in Computer Science - Artificial Intelligence | GPA: 3.5

Troy, AL

July 2025

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

University of Sunderland

Bachelor of Engineering in Electronic and Electrical Engineering | UK 2:1 Honours (3.5 GPA equivalent)

Sunderland, UK

July 2021

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

WORK EXPERIENCE

TELUS Digital | *AI Engineer*

Sep 2025 – Present

- Evaluated and validated LLM and NLP systems, improving semantic accuracy and intent alignment by 20–25% through systematic quality and performance analysis.
- Conducted structured error analysis to identify model failure patterns, bias, and edge cases, reducing recurring model errors by 30%.
- Supported supervised and reinforcement learning workflows by delivering high-quality validated datasets, increasing training data reliability by 35%.
- Monitored post-deployment model behavior to detect drift and anomalous outputs early, reducing downstream performance degradation.

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.

SKILLS

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

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, ETL pipelines, Tableau, D3.js

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