

VU TRONG CHAU

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SUMMARY

Machine Learning Engineer with proven experience in designing, training, and deploying production-ready ML and NLP systems. Skilled in building end-to-end pipelines, optimizing models for accuracy and efficiency, and deploying scalable applications on AWS, GCP, and Azure. Recognized for bridging research and production, scaling data pipelines, and applying transferable problem-solving skills, forecasting, and predictive analytics, with expertise in LLMs, Generative AI, and MLOps to turn complex data into actionable business insights.

TECHNICAL SKILLS

- Programming Languages:** Python, R, C++, JavaScript, MATLAB, SQL
- Machine Learning & AI:** Deep Learning, Neural Networks, NLP, LLMs, Decision Trees, Random Forest, CNNs, RNNs, XGBoost, SVM, Gradient Boosting
- Frameworks & Libraries:** TensorFlow, PyTorch, Keras, Scikit-learn, NLTK, Pandas, NumPy, Flask, D3.js, LangChain, RAG
- MLOps & Cloud:** AWS SageMaker, GCP Vertex AI, Azure ML, Docker, Kubernetes, CI/CD Pipelines
- Data & Visualization:** Jupyter, SQL, Tableau, Power BI, Hadoop
- IoT & Hardware (Transferable):** Arduino, PCB Design, SolidWorks, AutoCAD

PROJECTS

- Healthcare Chatbot** Sep 2025 – present
- Designed and deployed a Healthcare Q&A chatbot using LLMs and Retrieval-Augmented Generation (RAG) for accurate responses from 250,000+ data records.
 - Developed an end-to-end MLOps pipeline with automated data preprocessing, model deployment, and CI/CD integration using Docker.
 - Deployed a FastAPI backend and Streamlit web interface, integrating FAISS vector search and prompt engineering to enhance retrieval precision and reliability.
- Threat Detection using Machine Learning** Jan 2025 – July 2025
- Developed a cyberbullying detection system that classifies harmful online content using supervised machine learning models that achieve 92% accuracy (Logistic Regression, XGBoost, Naive Bayes, Random Forest, Decision Tree).
 - Applied NLP preprocessing techniques include tokenization, stemming, and TF-IDF vectorization on 72,000+ labeled social media texts. Engineered semantic, syntactic, sentiment, and pragmatic features to enhance classifier performance.
 - Developed a streamlined Flask interface for real-time input and results, emphasizing the identification of offensive words and generating a bullying severity score for better interpretability and effective real-time moderation.
- Global Population Prediction** Jan 2025 – May 2025
- Developed an application to forecast global population trends from 1960 to 2023 for all countries in the world.
 - Build ML models that achieve 95% accuracy for prediction. Designed a user-friendly web interface with charts such as a choropleth map, line charts, and bar charts to help users easily manage and update information.
 - Implemented using Python, D3.js, JavaScript, Python Web Server, Tailwind CSS, and Git, enabling scalable updates and easy user interaction.
- Sleep Quality Prediction** Sep 2024 – Dec 2024
- Developed machine learning models (Logistic Regression, Random Forest, CNNs, RNNs) to predict sleep quality scores from 70,000+ lifestyle and data records.
 - Engineered features including age, sleep duration, stress, heart rate, and daily steps, boosting performance to 96% accuracy.
 - Deployed a Flask dashboard enabling users to input lifestyle metrics, receive real-time predictions, and access personalized recommendations to improve sleep quality.

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 System, Manufacturing System Design.

CERTIFICATIONS

- LLM Application Engineering and Development | **Simplilearn** | [Link](#) Oct 2025
- Data Science Methodology | **IBM** | [Link](#) Sep 2025
- Generative AI with Large Language Models | **DeepLearning.AI** | [Link](#) Sep 2025