VU TRONG CHAU

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SUMMARY

Machine Learning Engineer with a strong background in applied AI, NLP, and IoT systems. Experienced in designing, training, and deploying end-to-end ML models with measurable impact. Skilled in building NLP pipelines, optimizing predictive models, and deploying real-time applications on cloud platforms (AWS, GCP, Azure). Recognized for bridging research and production, scaling data pipelines, and applying transferable problem-solving skills from embedded systems and data science to ML engineering.

TECHNICAL SKILLS

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

Machine Learning & AI: Deep Learning, Neural Networks, NLP, LLMs, Decision Trees, Random Forest, XGBoost, SVM, Gradient Boosting

Frameworks & Libraries: TensorFlow, PyTorch, Scikit-learn, Pandas, NumPy, Flask, D3.js

MLOps & Cloud: AWS SageMaker, GCP Vertex AI, Azure ML, Docker, Kubernetes, CI/CD Pipelines

Data & Visualization: Jupyter Notebook, SQL, Tableau, Power BI, Hadoop

IoT & Hardware (Transferable): Arduino, PCB Design, SolidWorks, AutoCAD

PROJECTS

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.
- Technologies used are Python, D3.js, JavaScript, Python Web Server, Tailwind CSS, and Git.

Smart Trash System (Arduino, AutoCAD, PCB, Multisim, SolidWorks) Dec 2020 – May 2021

- Designed a smart trash bin using ultrasonic sensors for automatic lid control and real-time waste level monitoring.
- Development of detailed 3D mechanical models and structural designs using SolidWorks and conversion into manufacturable drawings using AutoCAD.
- Built PCB layout for control circuitry using PCB design tools and Multisim.
- Integrated solar panels to power the system autonomously, suitable for public outdoor locations.

Anti-Burglar System House Connected to Smartphone (Arduino, AutoCAD, PCB, Multisim) Mar 2020 – July 2020

- Developed fully functional protected assets based on sensors.
- Design a system with a wiring diagram and house models for installation, testing effectiveness, and upgrading the system to ensure optimal operation.
- The system is connected to the phone for remote observation, management, and control.

EDUCATION

TROY UNIVERSITY July 2025

Master of Science in Computer Science (Artificial Intelligence Concentration) | GPA: 3.5

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

UNIVERSITY OF SUNDERLAND July 2021

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

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