Hoang Nam Dang

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Education

Gannon University – Bachelor of Science in Computer Science (2021-2025)
Le Quy Don Highschool for the Gifted – Physics Concentrated, IPhO (2018-2021)
Awards: J.J Durantz Research Awards
Papers published: *Predictive Modeling of Student Transfer Intentions: A Comprehensive Machine Learning Approach with Novel Feature Selection Methodology*- First author at ETLTC-ICES 2026 (Technology in Education section – University of Aizu, Japan)
Competitions: WorldQuant Brain, Akuna Capital Quant Research, Jane Street (July 2025 Puzzle Solver)

Skills

Programming Language: Python, Java, C#, JavaScript, C/C++, Go, SQL, NoSQL
Frameworks: .NET Core, FastAPI, Springboot, Django, Gin
Databases & Messaging: MySQL, PostgreSQL, MongoDB, InfluxDB, Redis, RabbitMQ
Tools & Platforms: Docker, Git, Vim, Linux, AWS, Azure

Experience

Software Engineer, E3 Company **December 2024 – May 2025**

- Engineered an enterprise-scale IoT data pipeline on AWS EC2, implementing a microservices architecture with RabbitMQ, InfluxDB, and MongoDB to reduce alert processing latency by 85%.
- Achieved a 15x performance improvement in database query speed by optimizing MongoDB queries with strategic indexing and schema redesign for a system processing
- Built high-performance backend services in JavaScript with Redis caching layer achieving sub 5ms response times, supporting 5x user growth.

Software Engineer Intern, PanHealth Inc **Remote**

- Engineered a full-stack healthcare solution, developing a C++ distributed backend (RabbitMQ, Kafka) for medication automation and a React Native mobile client for real-time EMR access while collaborated overseas with Indian team.

VR App Developer, Gannon University **Oct 2024 – May 2025**

- Developed a realistic, physics truthful welding machine in Unity (C#) integrating Blender-modeled assets that allows Mechanical and Industrial Engineer at ISM to practice in the Virtual Reality world.

Machine Learning Research Assistant, Gannon University **Oct 2024 – May 2025**

- Developed and implemented a Machine Learning-based Intrusion Detection System (IDS) designed for deployment within an AWS cloud architecture to enhance network security and anomaly detection.
- Applied predictive modeling and data analysis techniques to educational datasets, focusing on forecasting student transfer intentions and academic performance for an EdTech research project.

Smart Manufacturing Researcher, Gannon University **Jan 2025 – July 2025**

- Collected and preprocessed 15000+ videos data from K1C machine, and automated labeling via Label Studio.
- Established, trained, and tested machine learning models in and end-to-end manufacturing pipeline, reducing errors frequency in 3D printing.

Projects

Interview grader *500 Hours*

- Full-stack, real-time multimodal (SMOL-VLM) emotion recognition and pose detection platform to check for compatibility in recruiting students. Multimodal AI for Human-Centric Applications. *Sponsored by Lockheed Martin Senior Capstone*

Deep learning observability – *Pytorch, Next.Js, C++, SQL* *50 hours*

- Full-stack web application that visualizes hyperparameter tuning for deep-learning task in real-time, logging real-time loss/accuracy, visualizing metrics, and persisting model checkpoints/configurations for reproducibility.
- Website

Iron Condor option visualization– *Python, Streamlit* *72 hours*

- Applied Monte Carlo simulation and volatility forecasting to optimize strike selection, visualize payoff diagrams.
- Website

SWE Tracker– *Typescript, Golang* *20 Hours*

- Built the first open-source platform to track applications and save locally with IndexedDB database.
- Website