

Toan Vo

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PROFESSIONAL SUMMARY

Software Developer and Machine Learning enthusiast with 3 years of experience in software development and 3 years of hands-on experience in machine learning. Proficient in software engineering with strong expertise in Python, C/C++, and JavaScript. In-depth knowledge of modern software frameworks such as NodeJS and ReactJS. Experienced in developing machine learning models, with a focus on Deep Learning and Data Analysis. Skilled in popular ML frameworks such as scikit-learn, PyTorch, TensorFlow, and JAX, with a growing interest in foundational AI and its applications in real-world problems.

EDUCATION

University of Wisconsin - Madison

Madison, WI

B.S., Computer Science. Certificate, Statistics. GPA: 3.74/4

Expected May 2026

- **Relevant courses:** Algorithms, Data Structures, Statistical Modeling, Object-Oriented Programming, Multivariate Calculus, Linear Algebra, Deep Learning for Computer Vision, Matrix Methods in Machine Learning, Operating Systems, Parallel and Throughput Programming, Database Management System, Probability Theory.
- Third Prize - **Machine Learning Marathon 2024**
- Finalist - **Madhacks Fall 2023**

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL, R

Developer Tools: Git, Linux, VS Code, RStudio, PyCharm, IntelliJ, Eclipse, Docker

Libraries: pandas, NumPy, Matplotlib, PyTorch, Tensorflow, JAX, Scikit-learn

EXPERIENCE

Software Engineer Intern

June 2025 – August 2025

Viettel Group

Ho Chi Minh City, Vietnam

- Containerized and standardized AI model evaluation environments using Docker, and orchestrated local LLM inference workflows via Ollama to ensure reproducible, efficient testing.
- Authored & delivered a comprehensive presentation to senior engineers, detailing expected developer productivity improvements, compute requirements, and deployment recommendations without dedicated GPU infrastructure.
- Collaborated on Viettel's AI Tessel platform computer vision pipeline using deep embeddings and hierarchical clustering to group products by brand and packaging (e.g., milk cartons vs. bottles), cutting manual categorization by 35% and boosting precision by 20%.

Undergraduate Researcher (Machine Learning and Robotics)

May 2024 – August 2024

University of Utah, advisor: Professor Alan Kuntz

Salt Lake City, UT

- Pioneered a novel machine learning model for predicting tendon robot shape based on current robot configuration using long short-term memory (LSTM), outperforming the state-of-the-art learning-based method by 21%.
- Engineered a Bayesian optimization approach to automate surgical tasks, improving tissue retraction efficiency and precision, resulting in a 27% boost in efficiency and 15% better attachment point detection accuracy.

PROJECTS

Deep Learning for Ocular Disease Classification | Python, PyTorch | Group project March 2025 – April 2025

- Developed deep learning models to automatically detect eight common eye diseases (like glaucoma and diabetic retinopathy) from the ODIR-5K set of 6,392 retinal images, achieving nearly 50% accuracy.
- Engineered and evaluated several popular network architectures (ResNet, EfficientNet) and a custom design to find the best-performing solution.
- Integrated Grad-CAM for visual interpretability, highlighting clinically relevant regions (optic disc, macula) and enabling validation of model decisions from a clinical perspective.

Workspace Manager | MongoDB, Javascript, Git | Group project

November 2023

- Formulated with a team of four to build an application for simplifying workspace management for enhanced workflow efficiency.
- Integrated MongoDB to manage user settings, workspaces, and application preferences, reducing setup time by 50% through automated launching of multiple applications, streamlining the work environment process.

- Established user authentication and encrypted accounts for secure access, allowing unlimited number of users to create and manage personalized workspaces.

SAT Score Analysis and Impact of Attendance on SAT Scores | *R* October 2022 – December 2022

- Conducted an analysis of the correlation between mean SAT scores and school attendance in New York high schools, revealing key insights into the impact of attendance on SAT performance.
- Integrated R for data cleaning, processing, and conducting hypothesis testing to identify significant differences between SAT reading and writing scores, revealing a mean difference of 6.54 points.

Highway Crossing | *OpenGL, C#* | *Group project* January 2022 – May 2022

- Designed a 3D car highway crossing game with integrated audio effects and 3D models/textures for cars, roads, and environmental elements using OpenGL, enhancing both the gaming experience and visual appeal.
- Reduced game latency by optimizing collision detection and improving OpenGL rendering for 3D models and textures, achieving a 20% decrease in latency and a significantly smoother, more responsive gameplay.