

# 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*

- Evaluated and benchmarked multiple AI models for emerging AI-powered code-refactoring tools to automate performance optimizations across the codebase in a GPU-constrained environment.
- 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.

### 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.