Toan Vo

toanvongoduc2004@gmail.com | toannvo | 608-381-8510 | toanvond | Portfolio: toanvond.github.io

Professional Summary

Software Developer and Machine Learning enthusiast with 3 years of experience in software development and 2 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 robotics AI and its applications in real-world problems.

Education

University of Wisconsin - Madison — Madison, WI

B.S., Computer Science. Certificate, Statistics. GPA: 3.75/4 — *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-Optimized Programming.
- 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
Libraries: pandas, NumPy, Matplotlib, PyTorch, Tensorflow, JAX, Scikit-learn

Experience

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.

Academic Coach — August 2023 – May 2024

University of Wisconsin - Madison — *Madison, WI*

- Provided one-on-one tutoring sessions on introductory CS and Math courses for nearly 50 students weekly.
- Offered guidance on effective study techniques, time management, and test preparation to help students enhance their academic performance.

Projects

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.