Quenton Ni

qton680@gmail.com • (701) 306-5462 • github.com/nizhin

EDUCATION

M.S. in Computer Science *Minneapolis, MN*
University of Minnesota *May 2027*
College of Science and Engineering

B.S. in Computer Science, Minor in Management Information Systems *Minneapolis, MN*
University of Minnesota *May 2026*
College of Science and Engineering GPA: 4.00

TECHNICAL SKILLS

Languages: Python, Java, C, Javascript, Typescript, HTML, CSS
Technologies: Pytorch, Numpy, Pandas, Git/Github, Docker
Relevant Coursework: Applied Machine Learning, Algorithms and Data Structures, Operating Systems

EXPERIENCE

Research Assistant *Minneapolis, MN*
University of Minnesota-Twin Cities *Sep 2025 – Present*

- Conduct research on neural network quantization, exploring number representation schemes (e.g., fixed point, block floating point) to improve model efficiency.
- Implement experiments in Python/PyTorch and review literature on quantization methods to support ongoing research.

Computer Science Teaching Assistant *Minneapolis, MN*
University of Minnesota-Twin Cities *Sep 2024 – Present*

- Guided 400+ college students in learning concepts related to Java programming and data structures by facilitating regular communication with students, holding weekly office hours, and testing course content for assignments, projects, and exams.
- Support discussions at weekly TA meetings to improve and adapt course curriculum for better learning outcomes.
- Coordinated weekly labs for 30+ students, prepared lab resources, led students through 2 hour sets of Java programming**.**

Machine Learning Teaching Assistant *Minneapolis, MN*
UMN Data Science and AI Hub *May 2025 – August 2025*

- Supported PhD-led instruction for 90+ high school seniors in the UMN DSI AI Explorers Summer Program
- Taught machine learning concepts like deep neural networks, convolutional architectures, generative models, transformers, and reinforcement learning using libraries like PyTorch and scikit-learn.

Projects

Pokémon Type Classifier

- Developed image classification models to predict Pokémon types using convolutional neural networks (CNNs) and Vision Transformers (ViTs) on a custom labeled dataset of Pokémon images.
- Preprocessed and augmented over 1,000 Pokémon images to improve model robustness and handle class imbalance across multiple type categories.
- Evaluated model performance using precision, recall, F1-score, and confusion matrices and iteratively refined hyperparameters to improve classification accuracy.

Visual Transit Simulator

- Contributed to the design, documentation, and implementation of a Visual Transit Simulator (VTS) that models vehicle and passenger behavior across transit routes.
- Created and updated UML class diagrams and Javadoc documentation, adhering to Google Java style guidelines.
- Designed and executed comprehensive unit tests, ensuring robustness and compliance within requirements.

SQLite Clone

- Developed a lightweight relational database inspired by SQLite, implementing core database functionalities in C.
- Utilized a B-tree index structure to optimize query performance and minimize full table scans.
- Engineered a custom storage format for data persistence, handling in-memory structures and disk I/O operations.

AWARDS

- UMN-TC CSE Dean's List, 2022, 2023, 2024, 2025