Quenton Ni

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EDUCATION

M.S. in Computer Science — ***Minneapolis, MN***
University of Minnesota — *May 2027*
College of Science and Engineering — GPA: 4.00

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

EXPERIENCE

Software Engineer (Capstone) — ***Minneapolis, MN***
Medtronic — *Sep 2025 – Present*

- Partnering with Medtronic engineers in a year-long academic industry collaboration to design, implement, and test a software solution in the medical technology domain.
- Define project scope, document system specifications, and ensure all design components comply with industry and regulatory standards.
- Contribute to the full Agile development lifecycle, including architecture design, coding, testing, and peer code reviews while leveraging DevOps tools such as Git and Azure DevOps.

Research Assistant | *NSF REU & UROP Grant Recipient* — ***Minneapolis, MN***
University of Minnesota-Twin Cities — *Sep 2025 – Present*

- Initiating research into audio deepfake detection by analyzing state-of-the-art synthetic speech models and exploring acoustic feature extraction techniques to identify artifacts in AI generated audio.
- Conducted research on neural network quantization, exploring number representation schemes (e.g., fixed point, block floating point) to improve model efficiency and implemented experiments in PyTorch.

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

- Facilitate the education of 400+ students in courses ranging from Java based data structures to C systems programming and x86-64 assembly by holding weekly office hours, and testing course content for assignments, and exams.
- Coordinated weekly labs for 30+ students, prepared lab resources, led students through programming sets**.**

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 and Vision Transformers 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.

Gamblr

- Engineered a real-time gambling tracker using Vue.js and Firebase Firestore, implementing NoSQL data structures for seamless data synchronization.
- Developed a customizable drag and drop dashboard featuring interactive data visualization widgets for real-time spending analysis and habit tracking.
- Integrated Google Cloud Speech-to-Text via Firebase Function. and rendered a 3D slot machine simulation using Three.js.

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.

TECHNICAL SKILLS

Languages: Python, Java, C, JavaScript, Typescript, HTML, CSS
Technologies: PyTorch, NumPy, Scikit-Learn, Transformers, Git/GitHub, Docker, Vue, Flask, Azure, Azure DevOps, SQL, PostgreSQL, REST APIs, Agile/Scrum
Relevant Coursework: Applied Machine Learning, Natural Language Processing, Algorithms and Data Structures, Operating Systems, Machine Architecture, Distributed Systems