

Ethan Qiu

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EDUCATION

University of Toronto

Bachelor of Science — Computer Science Specialist

Expected June 2028

EXPERIENCE

Software Engineer (Co-op)

May 2025 – August 2025

General Dynamics Mission Systems–Canada

- Shipped a communications dashboard, location configuration plugin, and timer tool using **Java** and **shell scripting**.
- Developed a Python testing library that automated key test scenarios, **increasing test efficiency by 50%**.
- Improved team velocity by actively participating in sprint planning, backlog grooming, and code reviews.

Engineering Director – Industry Collaborations

May 2025 – Present

University of Toronto Machine Intelligence Student Team (UTMIST)

- Scoped 3+ ML projects by translating client goals into actionable deliverables, delivering **100% of MVPs on time** with direct alignment to customer requirements.
- Coordinated with team leads across 3+ projects to assign tasks, resolve blockers, and drive 10+ weekly syncs.
- Handled client comms across 10+ meetings, resolving technical issues and **reducing feedback cycles by 20%**.

Full Stack Developer

May 2025 – Present

University of Toronto Machine Intelligence Student Team (UTMIST)

- Implemented full authentication system and backend endpoints using Django **REST APIs (Python)** and **PostgreSQL**.
- Streamlined deployments with GitHub Actions CI/CD pipelines, enabling rollouts across distributed cloud environments and **reducing deployment errors by 90%**.
- Maintained **99.9% platform uptime for 1,000+ users** by implementing proactive system health monitoring.

PROJECTS

Orbit - Real-Time Social Intelligence | *React, OpenCV, Whisper, LangChain, Groq, Cerebras*

- Developed a real-time networking assistant using **Python** that integrates **computer vision, Whisper transcription, and LLMs** to identify people, capture conversations, and generate context-aware follow-ups.
- Architected a **parallelized inference pipeline** with persistent identity indexing, sub-second latency, and dynamic relationship mapping in an intuitive **React** interface.
- Earned awards in both the **Best Use of Groq** and **Best Use of Windsurf** tracks at **Hack the North 2025**.

Bounce Back - Mental Wellness Mobile App | *React Native, Firebase, PyTorch, Docker, Google Cloud*

- Engineered an AI-powered mobile app with journaling, mood tracking and activity logging, using **React Native**.
- Fine-tuned BERT models** on 10k labeled sentences with **PyTorch** for real-time sentiment analysis and emotion classification, used in conjunction with LLMs to generate personalized recommendations.
- Containerized the backend service with **Docker** containers and deployed on Google Cloud Platform.

Hyacinthe - AI Navigation for Visually Impaired Users | *Python, PyTorch, YOLO, OpenCV*

- Achieved **90% sign detection recall** in a real-time navigation app for the visually impaired by **fine-tuning a YOLOv8 model**.
- Built end-to-end speech guidance system, integrating custom STT and TTS modules for real-time audio feedback.
- Won 1st place at GeeseHacks 2025** among 200+ participants for technical innovation and social impact.

Polaris - Multiplayer Fitness Platformer Game | *React, FastAPI, Three.js, Mediapipe*

- Built a browser-based **3D platformer controlled with real-time body movement** using Mediapipe and OpenCV.
- Engineered a 3D physics game engine in React using Three.js, and implemented multiplayer using FastAPI.
- Won Best Game Hack** and placed as a **Finalist at Hack the 6ix 2025** among 450+ participants.

TECHNICAL SKILLS

Languages: Python, Java, JavaScript/TypeScript, C/C++, SQL, HTML/CSS

Frameworks: React, Django, Node.js, Express

Tools: Docker, Git, GitHub, GitLab, Firebase, Google Cloud

Libraries: PyTorch, LangChain, pandas, NumPy

Concepts: Data Structures & Algorithms, OOP, RESTful APIs, CI/CD Pipelines, Agile