

# Ethan Qiu

613-882-5083 | ethan.qiu@mail.utoronto.ca | linkedin.com/in/qiu-ethan | github.com/qiuethan

## EDUCATION

### University of Toronto

Bachelor of Science — Computer Science Specialist

Sep 2024 – Present

## EXPERIENCE

### Software Engineer (Co-op)

General Dynamics Mission Systems

May 2025 – Present

- Shipped a communications dashboard, location configuration plugin, and timer tool using **Java** and PowerShell scripts.
- 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

University of Toronto Machine Intelligence Student Team (UTMIST)

May 2025 – Present

- Scoped 3+ ML projects** by converting goals into timelines and deliverables, delivering **100% of MVPs on time**.
- Coordinated with team leads across 3+ projects to assign tasks, resolve blockers, and drive 10+ weekly syncs.
- Maintained clear client communication across 10+ meetings, reducing feedback cycles by 20%.

### Full Stack Developer

University of Toronto Machine Intelligence Student Team (UTMIST)

May 2025 – Present

- Implemented full authentication system and backend endpoints using Django REST APIs and PostgreSQL.
- Streamlined deployment workflows with GitHub Actions CI/CD, reducing deployment errors by 90%.
- Maintained **99.9% platform uptime for 1,000+ users** by implementing proactive system health monitoring.

## PROJECTS

### Polaris - Multiplayer Fitness Platformer Game | React, 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 Three.js and implemented multiplayer using FastAPI and WebSockets.
- Won Best Game Hack** and placed as a Finalist at Hack the 6ix 2024 among 450+ participants.

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

- Engineered an AI-powered mobile app with journaling, mood tracking and activity logging, using React Native and Firebase.
- Built **fine-tuned BERT models 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 and deployed on Google Cloud, enabling reproducible environments and one-click deployments.

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

- Achieved **90% sign detection accuracy** 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.

### RT1M - Financial & Goal Planning App | React, Firebase, LangChain, Vercel

- Created a web app using React and Firebase to enable personalized, detailed long-term financial goal setting.
- Architected a **RAG-based AI chatbot with LangChain** to automate profile updates and provide personalized financial guidance.
- Implemented and deployed the app on Vercel for beta testing.

## TECHNICAL SKILLS

**Languages:** Python, Java, JavaScript/TypeScript, C/C++, SQL

**Frameworks:** React, Django, Node.js, Express

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

**Libraries:** PyTorch, LangChain, pandas, NumPy

**Concepts:** RESTful APIs, CI/CD pipelines, Agile Methodologies