

# Ethan Yang

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Student computer engineer with strong foundations in systems programming, performance optimization, and hardware-software integration. Experienced in C/C++, Python, and Linux-based development across robotics, computer vision, and data-intensive systems. Interested in building reliable, performance-critical software for large-scale platforms.

## EDUCATION

### University of Toronto

Toronto, ON

*Bachelor of Applied Science in Computer Engineering + PEY Co-op*

*Sep. 2025 – Expected May 2030*

- **GPA:** 3.94 / 4.0

## TECHNICAL SKILLS

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

**Frameworks:** React, Node.js, Flask, ROS

**Developer Tools:** Git, Linux, Eclipse, IntelliJ, VS Code, Visual Studio, PyCharm, Arduino

**Libraries:** NumPy, OpenCV, Matplotlib

## PROJECTS

**HATSEYE** — Finalist (Top 6 / 144), DeltaHacks 12 | *Python, Arduino, OpenCV, Flask*

Jan. 2026

- Designed backend services and REST-style APIs to process real-time sensor and vision data under low-latency constraints
- Implemented a Flask-based service layer exposing system state, vision outputs, and audio events with emphasis on reliability and clear service contracts
- Developed and optimized OpenCV-based computer vision pipelines with attention to throughput, latency, and robustness
- Integrated hardware-generated events from Arduino devices into software services, reinforcing event-driven and hardware-software co-design patterns

**QuantiFi** — 3rd Place, UTEFA QuantiFi Competition | *Python*

Nov. 2025

- Implemented backend analytics modules for financial signal generation with emphasis on computational efficiency and modular design
- Performed large-scale backtesting on historical datasets, validating algorithmic correctness and performance under realistic workloads
- Produced structured performance metrics to support quantitative evaluation and iterative improvement

**binder.** | *React, TypeScript, Node.js*

Oct. 2025

- Built backend services to ingest, normalize, and serve structured data with attention to correctness, extensibility, and maintainability
- Designed API endpoints supporting analytical workloads and recommendation logic with clearly defined interfaces
- Collaborated across frontend and backend components using well-defined API contracts

**Stock Price Simulation & Risk Analysis** | *C++, Python, Matplotlib*

Oct. 2025

- Built Monte Carlo simulation engines in C++ for large-scale numerical and statistical analysis
- Evaluated correctness and performance using Python-based visualization and statistical validation techniques

## EXPERIENCE

### Software Developer

Sep. 2025 – Present

*Robotics for Space Exploration*

*Toronto, ON*

- Developed and maintained modular C++ and Python software components on Linux systems with emphasis on correctness and maintainability
- Worked with ROS-based distributed systems using message passing and service abstractions in simulated production-like environments
- Implemented unit tests and debugging tools to improve system reliability, fault isolation, and deployment readiness
- Collaborated in an agile engineering environment with strong emphasis on documentation and code quality

**Volleyball Coach**

Sep. 2021 – Present

*Toronto Thunderbolts Volleyball Club**Markham, ON*

- Led and mentored youth athletes, demonstrating leadership, communication, and accountability
- Planned and executed structured training programs while coordinating with coaches and organizational staff