

# Ethan Yang

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## EDUCATION

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### University of Toronto

Toronto, ON

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

*Sep. 2025 – Expected May 2030*

## TECHNICAL SKILLS

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

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

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

**Libraries:** NumPy, Matplotlib, OpenCV

## PROJECTS

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

Jan. 2026

- Built an Arduino-based assistive hat with ultrasonic sensors and distance-based vibration
- Developed a voice-activated AI-powered vision assistant to describe the user's surroundings
- Implemented obstacle detection and scene analysis using OpenCV
- Added text-to-speech output and a simple Flask web interface for audio feedback and system status

**QuantiFi** (3rd Place, UTEFA QuantiFi Competition 2025) | *Python*

Nov. 2025

- Designed and implemented a dual moving average crossover trading strategy in Python
- Backtested the strategy on market datasets and evaluated performance using returns and Sharpe ratio
- Optimized strategy parameters via grid search to improve return stability

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

Oct. 2025

- Built a swipe-style marketplace application for browsing secondhand listings with price recommendation features
- Implemented automated scraping of Kijiji listings and structured listing data for analysis
- Developed price analysis and negotiation guidance features based on historical listing data
- Designed responsive, interactive user interfaces using React and TypeScript

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

Oct. 2025

- Implemented a Monte Carlo simulation in C++ to model stock price dynamics using Geometric Brownian Motion
- Simulated large numbers of price paths and analyzed resulting distributions for statistical properties
- Visualized simulation outcomes and evaluated model behavior using Matplotlib

## EXPERIENCE

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### Software Developer

Sep. 2025 – Present

*Robotics for Space Exploration*

*Toronto, ON*

- Developed robotics software in Python and C++ for student robotics competitions
- Wrote unit tests for ROS-based robotics components on Linux using simulation tools
- Collaborated with cross-functional teams to deliver mission-driven robotics software
- Applied Git, debugging, and documentation best practices throughout development

### Volleyball Coach

Sep. 2021 – Present

*Toronto Thunderbolts Volleyball Club*

*Markham, ON*

- Led structured training sessions for youth teams and managed practice schedules
- Provided feedback and mentorship to support athlete development and performance
- Coordinated with coaching staff to plan practices, drills, and competition strategies