Eric Ye

(647) 639-8532
me@ericye16.com
ericye16.com

Objective: Obtain a position where I can contribute and improve my skills designing and integrating software and hardware.

Profile

- Grand prize winner at Treehacks (Stanford) 2015 and top ten winner at Hack the North 2014.
- Achieved 93.5% average in most recent academic term.
- Strong experience writing embedded code in C with memory and computational constraints.
- Leading the firmware team on the University of Waterloo's Formula Electric Racing Team.
- Experience designing hardware in Altium to create schematics and PCBs.
- Experience writing software in MATLAB, Python, Java, C++, C, CUDA, Rust, C#, HTML/CSS/JS, and other languages.
- Hardworking, enthusiastic, and fast-learning individual with interests and experiences in mechatronics engineering. Works well independently as well as in teams.

Skills

- Fluent in C/C++/C#, Python, Java, CUDA, MATLAB, and tools such as git and svn.
- Skilled at schematic design and capture with Altium and Allegro Cadence.
- Enjoys leading teams to solve interesting and challenging problems.

Work Experience

(Expected) Fall 2017 — **Silicon Validation Intern, Apple Inc**, Cupertino, California, USA.

- Will work with iOS engineers and logic designers to ensure that integrated circuits are functioning as expected.

Winter 2017 — **Hardware Design Engineering Intern, Tesla Inc**, Palo Alto, California, USA.

Designed hardware and software for a PCB for audio testing; Helped validate and design infotainment and autopilot hardware.

- Worked with audio and reliability teams to determine functional requirements for audio test PCB.
- Created schematics, guided layout, and ordered production of PCB for audio testing.
- Developed software to allow users and automated software to test audio components.
- Helped debug electromagnetic interference (EMI) issues with infotainment and autopilot hardware.
- Trained external teams on programming and using infotainment hardware.

Summer 2016 — **Software Development, Intrinsyc Technologies Corporation**, Vancouver, BC, Canada.

Supported Snapdragon Flight, a drone development kit.

- Built, packaged and released a board support package (BSP) to customers, which provided bugfixes and enhancements to an embedded Linux operating system and a flight stack application.
- Contributed to open-source PX4 autopilot project through driver development and bugfixes.
- Designed and documented factory test procedure for electronic speed controller (ESC) board to ensure manufacturing quality of new product.
- Provided hardware and software support to outside customers.

Fall 2015 **Hardware Engineering, Pebble Technology**, Palo Alto, California.

Created schematics, layouts and managed production of PCBs for testing and next-generation products.

- Created battery simulator board, which enabled engineers to test watch behaviour without a real battery.
  - Allowed automated power testing to scale from approximately 20 to 150 rigs while saving over $100,000.
  - Enabled QA engineers to test behaviour at different states of discharge without a real battery.
  - Created and validated prototypes on breadboards.
  - Wrote software in Python and C to drive and program battery simulator board.

Winter 2015 **Embedded Firmware Engineering, Pebble Technology**, Palo Alto, California.

Worked on the "Timeline" interface for the Pebble Time smartwatch.

- Wrote backing and UI code for Timeline, which currently runs on over 100,000 watches.
- Fixed bugs, and added features to FreeRTOS-based operating system, contributing over 10,000 lines of C.
- Performed and underwent code reviews to ensure a consistently high quality of code.
- Presented an experimental UI to the product team for unreleased product.

Summer, 2013, 2014 **Summer Intern, Sunnybrook Research Institute**, Toronto, Ontario.

Created and improved computer applications at the Focused Ultrasound Lab.

- Worked with Ph.D candidate on a biomedical physics research project involving passive imaging.
- Re-implemented beamforming algorithms in CUDA, resulting in a 600× increase in speed.
- Created an application in MATLAB that automates data-alignment tasks.

Interests & Extracurricular

Summer 2017 **Firmware Team Lead**, *Waterloo Formula Electric Team*, Waterloo, Ontario.

- Responsible for the firmware of the Vehicle Control Unit, Power Distribution Unit, Data Acquisition Unit and Charge Cart Controller for a student-designed electric racecar.
- Converted legacy applications to use FreeRTOS to manage tasks and synchronization.
- Used CAN bus to transmit and receive signals from different controllers in the low voltage system.

Winter 2016 **EngHack Co-Director**, *Engineering Society*, University of Waterloo, Waterloo, Ontario.

- Coordinated sponsorships, food, judging, and logistics for a 20-hour hackathon with over 100 students.
- Fostered a new collaboration with the Mathematics Society to create a more inclusive event.

Awards and Achievements

Winter 2015 **Winning Team (MetroArm)**, *TreeHacks*, Stanford, California.

Created a Leap Motion-controlled six-axis robotic arm that imitates the human hand.

- Winner - top submission out of over 100 entries at Stanford's inaugural hackathon.
- Created a robotic arm and hand with six degrees of freedom out of aluminum and wood.
- Mapped hand and arm position data from Leap Motion's API to robot motions.

Education

2014–2019 **Candidate for BASc (Mechatronics Engineering)**, *University of Waterloo*.

- Studying the design and integration of computer-controlled electromechanical systems.
- Ranked fourth out of over 80 students in most recent academic term with a 4.0 cumulative GPA.