

# ETHAN PETERSON

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Projects ◇ GitHub ◇ LinkedIn

## EDUCATION

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### Queen's University

September 2018 - May 2023

*Intended Designation: BAsC Computer Engineering (Entering 4th Year)*

*Kingston, Ontario*

- Dean's Scholar, awarded to students with a GPA of 3.5 or higher (1st, 2nd & 3rd year)
- Principal's Entrance Scholarship (2018)
- GPA: 4/4.3

## EXPERIENCE

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### Kepler Communications

May 2021 - Present

*Hardware Engineering Intern*

*Toronto, Ontario*

- Designed hardware and software for a motor controller PCB.
- Owned the requirements capture, scoping, schematic, layout and release of a flight PCB design. This design includes several high speed Aurora lanes, 10G Ethernet and distributes over a kilowatt of power.
- Continuing to contribute PCB designs that support Kepler's network infrastructure and overarching goal of putting the internet in space.

### Kepler Communications

May 2020 - August 2020

*Hardware Test Engineering Intern*

*Toronto, Ontario*

- Worked with full time engineers to bring the company's next generation of low earth orbit (LEO) satellites to fruition.
- Designed a selection of custom PCBs to support the satellite manufacturing process. Designs include, but are not limited to, internet enabled JTAG debuggers for FPGAs, flight sensor calibration PCBs, TVAC capable wiring harnesses and power boards with slew rate control.
- Debugged flight boards using an oscilloscope with voltage and current probes.
- Wrote the Python and C code required to test each PCB design as well as debugging existing scripts.

### Wattpad Inc.

May 2019 - August 2019

*Associate Engineer*

*Toronto, Ontario*

- Worked with the Velocity squad on a variety of internal tools for Wattpad engineering. Namely Ship-it!, an open source continuous deployment tool running atop Kubernetes and Helm.
- Wrote the Ship-it! frontend dashboard using React and MaterialUI.
- Built a synchronization package in GoLang to reconcile the state of the Kubernetes Cluster and the deployment specifications for each service in Git.

### Marrelli Support Services Inc.

June 2018 - August 2018

*Software Developer*

*Toronto, Ontario*

- Responsible for developing custom software for a firm specialized in providing corporate services to publicly-traded companies.
- Developed a custom volatility calculator to be used by the firm to calculate the historical volatility of equities traded on the TSX and TSX Venture Exchange.

- Liaised with members of the firm's upper management to independently design and develop a custom payment tracking software to assist the firm in its transition to a paperless bookkeeping process. The software complies with the firm's internal control procedures, allows for communication between departments and guides users through the process so as to minimize bookkeeping errors.

### **Braincubator**

*Backend Developer*

June 2017 - August 2017

*Toronto, Ontario*

- Summer internship with a start-up company specialized in delivering stem-based workshops.
- Programmed the backend of the company website using Python and developed a Microsoft Kinect demo using Java.

## **TECHNICAL SKILLS**

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### **Office Software**

Word, Powerpoint, Excel, OneNote and L<sup>A</sup>T<sub>E</sub>X

### **Hardware**

Oscilloscope Operation, SPI, I2C, USART, CAN, Altium Designer, EAGLE, KiCAD, Schematic Design, PCB Layout, and STM32

### **Programming**

Java, JavaScript (React and JSX), Python, Swift, C, GoLang, AVR Assembly, Bash Script, Linux, SVN, Git, Kubernetes, and Amazon Web Services.

## **EXTRACURRICULAR EXPERIENCE**

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### **Queen's Formula Society of Automotive Engineers**

*Team Lead - Electrical Section*

September 2018 - Present

*Kingston, Ontario*

- Leading all software developers and hardware designers on the team. Assisting with technical issues in addition to defining the overall system architecture.
- Architect of the CAN Bus network employed on all vehicles from 2020 onward. Wrote a custom CAN library in C++ to allow other team members to easily access CAN data in their respective software projects.
- Implemented inter-MCU communication protocols using Consistent Overhead Byte Stuffing (COBS) and checksums to ensure data integrity.
- Moved all microcontrollers from Arduino and off-the-shelf shields to fully custom STM32 ARM PCB designs.
- Currently leading the development of an electrical vehicle for the 2023-2024 racing season.

### **Youth Assisting Youth**

*Volunteer - STEM Tutor*

September 2021 - Present

*Toronto, Ontario*

- Tutoring at-risk youth in STEM subjects with a particular focus on computer science.
- Committed to emphasizing the value of a university education and engineering in particular.

### **Royal St. George's College**

*Creator - iOS Schedule App*

February 2016 - March 2018

*Toronto, Ontario*

- Created an iOS and Android scheduling app which interprets the school's day cycle and allows students to view current or future days of their timetable on a calendar.
- Developed a server side backend which holds user accounts and associated schedule data using Python Django and the Django REST framework and allows the creation of a public API.
- Released a simplified iOS version of the app on the Apple app store in March 2018 to coincide with the roll out of a new schedule being tested by the school.

**Royal St. George's College**

*Teaching Assistant*

September 2017 - June 2018

*Toronto, Ontario*

- One of a select group of Grade 12 high achieving students awarded the position.
- Responsibilities included assisting/mentoring Grade 10, 11 and 12 students with projects in the engineering lab, as well as completing in-house lab projects, managing the lab and supervising equipment use outside of school hours.