ETHAN PETERSON

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Projects ◇ GitHub ◇ LinkedIn

EDUCATION

Queen's University September 2018 - May 2022
Intended Designation: BASc Computer Engineering (Entering 3rd Year) *Kingston, Ontario*

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

EXPERIENCE

Kepler Communications May 2020 - Present
Hardware 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 June 2017 - August 2017
Backend Developer *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

Office Software	Word, Powerpoint, Excel, OneNote and LaTeX
Hardware	Oscilloscope Operation, SPI, I2C, USART, CAN, Altium Designer, EAGLE, KiCAD, Schematic Design, PCB Layout, ARM, STM32, Bare Metal C on ARM and Real Time Operating System (RTOS) development on STM32.
Programming	Java, JavaScript (React and JSX), Python, Swift, C, GoLang, AVR Assembly, Bash Script, Linux, SVN, Git, Kubernetes, Helm, Docker and Amazon Web Services.

EXTRACURRICULAR EXPERIENCE

Queen's Formula SAE September 2018 - Present
Electrical Team - Senior Member *Kingston, Ontario*

- Architect of the CAN Bus network employed on the 2020 vehicle. Wrote a custom CAN library in C++ to allow other team members to easily access CAN data in their respective software projects.
- Selected addresses for each CAN message to ensure that important data had higher priority.
- Solved an issue in the dashboard design where the MCU in use could not transmit CAN messages. Added a second MCU to the PCB to handle CAN tasks allowing the team to keep the existing dashboard code leading up to competition. The two MCUs on the board were linked using UART and a custom communication protocol was implemented with Consistent Overhead Byte Stuffing (COBS) to ensure data integrity.
- Currently in the process of moving all MCUs on the car from AVR to ARM architecture, making use of increased speed and greater peripheral selection.

Royal St. George's College February 2016 - March 2018
Creator - iOS Schedule App *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 September 2017 - June 2018
Teaching Assistant *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

Royal St. George's College January 2017 - June 2018
Founder & Instructor - Programming Club *Toronto, Ontario*

- Duties included teaching students to program in various languages and on different platforms, including Arduino and Processing, as well as curriculum preparation