

# Ethan McAuliffe

3rd year Computer and Management Engineering student  
<https://github.com/emcauliffe>

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## Education

### McMaster University

Hamilton, ON

*Bachelor of Computer and Management Engineering (Co-op)*

Sept. 2018 - Present

- Completed 2.5 years (Cumulative 3.8 GPA)
- *CompEng 2SI4 & 2SH4* - Acquired an in-depth understanding of Python, C, and Java through lab work and testing (mark: 4.0 & 3.8 respectively)
- *CompEng 2DI4* - Developed knowledge on logic design and Verilog (mark: 4.0)

### Royal St. George's College

Toronto, ON

*Ontario Secondary School Diploma (and AP credits)*

Sept. 2014 - June 2018

- *TEI4M* - Learned the fundamentals of computer engineering through a variety of projects such as building a breadboard computer, programming PWM fan control with USART readout in assembly, and more

## Work Experience

### Software Developer (part-time)

Toronto, ON

*Integral Co.*

Feb. 2021 - Present

- Building experience working with industry tools/libraries (FastAPI, React, SQLAlchemy) on a small, fast-paced development team
- Integrating customer feedback to develop a highly praised full-stack application to modernize manufacturing, shipping, and installation workflows
- Applying Python, JavaScript, Docker, SQL skills in a collaborative software development environment

### Risk and Control Automation Analyst

Toronto, ON

*Royal Bank of Canada*

Jan. 2021 - Present

- Commended for ability to make impactful contributions towards the team's goals by developing robust, yet easily maintainable tests
- Praised for improvements to team efficiency and organization by migrating task management system and authoring clear documentation
- Developed extensive experience on working and developing software in a corporate environment

### Software Engineering Intern

Toronto, ON

*RT7 Inc.*

May 2019 - Aug. 2019

- Contributing member of a development team in a work environment
- Wrote documentation for existing Swift codebase
- Rebuilt existing product from scratch with React Native, uniting Android and iOS codebases
- Practised attention to detail when generating new apps and publishing with accurate info to the App Store

### Summer Intern

Toronto, ON

*Achiga Inc. & Concierge Plus*

Jul. 2018 - Aug. 2018

- Reduced accounts receivable over 90 days by 80+% through effective communications with past due customers
- Extensive experience identifying and eliminating anomalies with money records/data
- Developed professional interpersonal skills through daily interaction with customers

## Extracurriculars

### Software Team Lead at McMaster Mars Rover

Jul. 2020 - Present

*McMaster University*

- Manage, coordinate, and participate in the development of software (embedded and non embedded) for the McMaster mars rover with a team of bright and motivated individuals
- Work with ROS (Python & C++) to create and simulate a rover capable of autonomously or manually completing tasks like GPS waypoint navigation, obstacle avoidance, precise arm control, object detection, environment mapping (SLAM), differential drive control, and more
- Applying skills learned in engineering courses (technical) and in commerce courses (recruiting and team building)

### SHAD Valley

Jul. 2017

*Lakehead University*

- Worked with other SHAD participants to develop a product and a business plan with the goal of reducing the Canadians' energy footprint; placed 1st & qualified for national competition

## Volunteering

### Technical Assistant (TA)

*Royal St. George's College*

Sept. 2017 - Jun. 2018

- Selected for a leadership role teaching younger students basic electronic circuits, Arduino programs, and technical writing

## Personal Projects

### Seat Alert (<https://seatalert.ca>)

- Built a website where students can sign up to receive email and text alerts when a seat becomes available in a course they are interested in
- Frontend in React/Preact (+from-scratch webpack configuration) with a FastAPI backend and a custom Python package to query public university databases (utilizing async libraries)
- Over 6.5k registered users and over 40k alerts delivered in the first month of operation

### Bottles Against COVID (<https://bottlesagainstdcoid.org>)

- Built a full-stack website to facilitate contactless bottle drives during the COVID-19 pandemic
- Ran a bottle drive every week and raised over \$3000 for St. Joe's Hospital in Toronto

### 4-Bit Transistor-Transistor Logic (TTL) Computer

- Gained extensive knowledge in the working of computers and computer architecture

## Selected Skills

- |              |               |           |                          |              |
|--------------|---------------|-----------|--------------------------|--------------|
| – Java       | – Bash (+zsh) | – Robot   | – ReactJS &              | – EAGLE PCB  |
| – Python     | – MATLAB      | Operating | React Native             | – Quartus II |
| – C          | – AVR         | System    | – Docker                 | – *NIX       |
| – JavaScript | Assembly      | – Flask & | – I <sup>2</sup> C, SPI, | Systems      |
| – Verilog    | – Git         | FastAPI   | U(S)ART                  |              |