

TECHNICAL SKILLS

LANGUAGES C++, Python, JavaScript, SQL, Java

TECHNOLOGIES Node.js, React, Express, MongoDB, MySQL, OpenCV, NumPy, Django, CUDA, OpenGL, Git

PROGRAMS MS Office, SolidWorks, Autodesk, Linux/Unix Operating Systems

EXPERIENCE

Sunnybrook Research Institute | Focused Ultrasound Lab

Software Development Intern

Jul 2018 – Aug 2018

- ▶ Reworked transcranial treatment-monitoring program to run **80% faster** and beamform larger volumes in real-time
- ▶ Revamped data-processing pipeline by **reducing need for memory transfer** among compute devices **by 50%**
- ▶ Ported OpenGL renderer from CUDA Runtime to Driver API for **lower levels of abstraction** and **full control over kernels**
- ▶ **Technologies Used:** C++, CUDA, OpenGL

Software Development Intern

Jul 2017 – Aug 2017

- ▶ Designed and implemented Python Tkinter frontend to replace interactive terminal prompts and **improve ease-of-use**
- ▶ Developed backend with NumPy to **automatically transform** large medical images for multiple algorithms, replacing manual entry and **reducing** operation time **twofold**
- ▶ Assisted configuration of virtualized Linux servers on which to run treatment planning computations
- ▶ **Technologies Used:** Python, NumPy, Tkinter, Linux

FIRST Robotics

Team Captain, Head Programmer

Dec 2015 – Jun 2018

- ▶ Introduced use of vision for goal tracking by implementing an OpenCV pipeline to **reduce aim time by 60%** on average
- ▶ Significantly improved drivetrain consistency **accurate to 2" tolerance** using PID closed-loop system with sensors
- ▶ Integrated use of industry drafting standards in SolidWorks for correspondence with manufacturing sponsors
- ▶ **Technologies Used:** Java, Python, OpenCV, SolidWorks, Autodesk Inventor, WPILib

PROJECTS

Formula 1 2018 Season Recap

[f12018.cyamonide.me >](https://f12018.cyamonide.me)

React application showcasing season results and highlights

- ▶ Developed single-page app using full MERN stack to access and display statistics from 21 races and 20 drivers
- ▶ Implemented web scraper in Python to extract season data and store in MongoDB collections for front-end rendering
- ▶ **Technologies Used:** Node.js, React, MongoDB, Express, Python, SQL

Markdown to HTML Converter

[github.com/cyamonide/md2html >](https://github.com/cyamonide/md2html)

Markdown utility converting GitHub Markdown files to HTML documents

- ▶ Built in C++ to streamline workflow of hosting personal course notes on website
- ▶ Used Regex expressions to comprehensively match syntax and recursively parse nested content
- ▶ **Technologies Used:** C++

ACTIVITIES

- ▶ **2018 CEMC Canadian Computing Competition** | Top 4% of contestants
- ▶ **USA Computing Olympiad December 2017** | Gold Division Qualifier
- ▶ **UW REACT** | Building fully autonomous FIRST robot
Contributing on Perception dev team; using ROS & OpenCV
- ▶ **Hackathons** | THacks2, PennApps Retro, UofT Hacks VI, DeltaHacks V

EDUCATION

University of Waterloo

Honours Computer Science (Co-op)

GPA: 3.98 / 4