

Aiden Fox-Ivey

519-574-5740 abfoxivey@uwaterloo.ca aidenfoxivey.com

Tools

Languages: Python, Java, JavaScript, C, C++, Rust, SQL

Technologies: Docker, Git, Django, Matplotlib, NGINX, Linux, Numpy, Pandas, OpenCV, PyTorch, AWS, Google Cloud, Github Actions, React.js, Express.js, Mongo DB

Experience

Data-Driven Networking Research

Huawei Canada Co., Ltd. | Markham, Canada | September 2022 - December 2022

- Ongoing...

Machine Learning Developer

Government of Ontario | Toronto, Canada | December 2021 - April 2022

- Developed an open-source powered email classifying algorithm in **PyTorch** and **SpaCy** that delivered on average a **10%** improvement in accuracy over the proprietary alternative.
- Delivered technical presentations regarding **Docker** and containerization to upper management staff.
- Spearheaded a move to automated web application testing using **Selenium WebDriver**.
- Developed an OCR program for documents using **Sobel edge detection** and **PyTesseract**.

Firmware Developer

Waterloo Rocketry | Waterloo, Canada | September 2021 - current

- Developed a controls library in C++ using a **Kalman filter** and **PID loop** to safely navigate a deployed payload.
- Participated in code reviews alongside senior team members.
- Implemented a modified **CANBUS** schema on **PIC** microcontrollers.
- Assembled and debugged on-rocket ionizing radiation detecting PCBs.

Projects

Oxidized

gitlab.com/aidenfoxivey/oxidized

- Developed an implementation of the GNU ed text editor in **Rust**.
- Designed a **finite state machine** to encode the write/edit/append states of the editor.
- Implemented **Regex** parsing for a faithful reproduction of the original functionality.

Coursescape

github.com/aidenfoxivey/Coursescape

- Engineered a MERN stack course-review webapp for electrical and computer engineering first years.
- Constructed a **Docker** image to deploy the service externally and to provide easy, reliable backups.
- Generated a clean and intuitive **React.js** frontend to improve UI/UX.
- Wrote an **Express.js** backend to interface with various sample and production **MongoDB Realms** datasets.

Education

University of Waterloo

Candidate for BAsC in Computer Engineering | September 2021 - April 2026

Relevant Courseware: Fundamentals of Programming in C++, Data Structures and Algorithms