

# KAELAN MOFFETT-STEINKE

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## Work Experience

### Backr Inc.

BACKEND DEVELOPER

Toronto

June-Sep 2020

- Designed the companies' main Postgres db and schema, implemented with SQLAlchemy ORM
- Designed and led a team to implement Flask server performing data ingestion 80% faster than previous model
- Developed fullstack webapp using NodeJS + ReactJS stack
- Pioneered company wide DevOps procedures as Git integrated CI, comprehensive unit & integration testing, using Docker to containerize applications

Flask, Python, NodeJS, Javascript, Google Cloud, AppEngine, PostgreSQL, Docker, SQL

### CIBC

FULL STACK DEVELOPER

Toronto

Sep-Dec 2019

- Led the development of a webapp with users nationwide, using SvelteJS as frontend, Flask (Python) webserver backend with OracleDB SQL server
- Improved fraud detection capabilities by creating a title classifier using spaCy, NLTK (Python)
- Achieved "Above and Beyond" award for outstanding performance

Flask, SvelteJS, Javascript, Python, Tableau, SQL, SASS/SCSS, SpaCy

### North Inc. (Formerly Thalmic Labs)

COMPUTER VISION SOFTWARE DEVELOPER

Waterloo

Jan-April 2019

- Improved simulation accuracy by 76% by developing a performance critical DLL plugin that performs raytraces
- Created enhanced optical artifact simulator, using advanced OpenCV matrix calculations in C++
- Improved effectiveness of material property lookup table by developing n-dimensional interpolation algorithm

C++, OpenCV, Python, Arduino

## Projects

### Slack Chatbot (AWS)

UW Rocketry - Electrical Team

- Developed scheduling application in Python, deployed to AWS Lambda
- Set up REST API Gateway to communicate with AWS Lambda Function
- Created Amazon DynamoDB database to store user and group schedules

Python, AWS, Bash, Amazon DynamoDB

### Realtime Rocket Data Visualiser

UW Rocketry - Electrical Team

- Developed data transfer protocol for realtime transmission of rocket sensor data
- Improved analysis capabilities by creating data visualizations with D3.js graphs encapsulated as Python Plotly Dash components

Python, Arduino, Plotly Dash, D3.js

### Smart Headlamp

UTRAHacks

- Created gesture controlled headlamp with deep learning facial recognition via Haar Cascades in OpenCV
- Implemented Leap Motion Control using C++
- Set up onboard Raspberry Pi and Arduino to control motors, sensors, and lights
- Achieved second place, and received Leap Motion award

Python, OpenCV, C++, Arduino

## Skills

### Backend / Database

Flask, NodeJS, AWS, PostgreSQL, SQLAlchemy, Sequelize, SQL, OracleDB, Docker, Amazon DynamoDB, Google Cloud, Cloud SQL, Compute Engine

### Frontend Webdev / UI

SvelteJS, ReactJS, HTML, SASS/SCSS, CSS, JQuery, QT, PyQt, Selenium, AppEngine, Latex

### Data analysis / Visualization

SpaCy, NLTK, D3.js, Plotly Dash, Matplotlib, Pandas

### Languages

Javascript, Python, C++, C, Arduino, Bash, Vimscript

### Coursework

Real Time Operating Systems, Digital Computation, Data Structures and Algorithms, Microprocessors

## Education

BASc in Mechatronics Engineering

University of Waterloo

Expected Graduation May 2023

## Awards / Achievements

- Waterloo Engineering Competition 2019 - 2nd place
- CIBC Employee Above & Beyond Award
- UTRAHacks 2018 - 2nd place
- University Bouldering Series 2018 - 2nd place
- 2017 Youth Climbing Nationals - 7th place

## Interests

- Competitive rock climber for 12 years
- National Youth Circus alumni
- Machining, woodworking
- Rock climbing coach during high school