KAELAN MOFFETT-STEINKE

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Work Experience

Backr Inc. *Toronto*
BACKEND DEVELOPER *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

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

CIBC *Toronto*
FULL STACK DEVELOPER *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) *Waterloo*
COMPUTER VISION SOFTWARE DEVELOPER *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 Rasperry Pi and Arduino to control motors, sensors, and lights
- Achieved second place, and received Leap Motion award

Python, OpenCV, C++, Arduino

Skills

Backend / Database
NodeJS, Flask, AWS, PostgreSQL, SQLAlchemy, Sequelize, MongoDB, OracleDB, Amazon DynamoDB, Google Cloud, Cloud SQL, Compute Engine

Frontend Webdev / UI
SvelteJS, ReactJS, HTML, SASS/SCSS, CSS, JQuery, QT, PyQT, Selenium, AppEngine, Latex

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

Environment/Tools
Linux (Arch, Debian, Ubuntu), regex, vim, Docker, GNU Make, CMake, Windows Subsystem for Linux

Data Analysis / Visualization
SpaCy, NLTK, D3.js, Plotly Dash, Matplotlib, Pandas,

Coursework
Real Time Operating Systems, Advanced Calculus, 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