

WORK EXPERIENCE

Member of technical staff

May 2018 – August 2018

Arctic Wolf Networks, Kitchener Ontario

An up-and coming cyber-security company offering onsite and cloud-based monitoring and alerts.

- Used Esper, Apache Flink and Hadoop as part of a complex event processing pipeline to find patterns in unbounded series of events.
- Part of team that pioneered construction of time-series anomaly detection system.
- Wrote independent auto-scaling services as part of a data processing pipeline that processed 8 billion messages per day.
- Added metrics and stability alerts to services.

Native back-end developer

May 2017 – December 2017

Carnegie Technologies, Kitchener Ontario

A start-up focusing on network protocol enhancement and IoT asset tracking using mesh networks.

- Developed native C++ GPS and ephemeris libraries for use in embedded devices.
- Participated in the design of, and implemented REST style microservices using Node.js and RabbitMQ.
- Designed and implemented C++ and Node.js RabbitMQ messaging library with support for a variety of usage patterns (Consumer, Requester).
- Designed and implemented C++ JSON manipulation and validation library with support for proprietary extensions to JSON schema specification.

EDUCATION

Software engineering (Co-op), Marketing management minor

September 2015 – Present

University of Guelph, Guelph Ontario

- Dr. Mary McLeish Scholarship recipient (Highest GPA in Software engineering major)
- 2018 Braithwaite Business Scholarship
- Deans list

OPEN SOURCE CONTRIBUTIONS

avast-tl/retdec

December 2017

Avast's "Retargetable De-compiler"

- Proposed and added Docker support

netmail-open/wjelement

November 2017

Netmail's Pure C JSON library

- Found and fixed bug causing library not to compile with glibc
- Added date-time support to JSON schema verification system

DefinitelyTyped/DefinitelyTyped

July 2017

High quality typescript type definitions

- Added typescript type definitions for various Node.js libraries

VOLUNTEER HISTORY

Alumni and programming mentor, former student member

September 2013 – Present

M. M. Robinson high school's robotics club, "Rambotics"

- Conceptualized and implemented the 2013 and 2014 control system.
- Correspondent with professional sponsors to acquire industry-standard high-precision sensors.
- Promoted interest in robotics community through live robot demonstrations and community outreach programs.

PERSONAL PROJECTS / HACKATHONS

RESTful HTTP chess API

December 2nd, 2017

Major league hacking (MLH)

- Transient game sessions join-able with sharable key

'Squad Messenger' instant messenger

June 2015

- Cross-platform 'chatroom' style instant messenger for groups

LANGUAGES AND TECHNOLOGIES

- | | | | |
|--------|------------------------|----------|------------|
| • C | • Python | • Docker | • Hadoop |
| • C++ | • Node.js (typescript) | • Git | • Esper |
| • Java | • ElasticSearch | • Flink | • RabbitMQ |