# HUGO KLEPSCH

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## EDUCATION

**University of Guelph** September 2015 - April 2020
*B.Comp. Software Engineering (Co-op), Honours. Marketing minor* *Guelph, ON*

- Dr. Mary McLeish Scholarship recipient (Highest GPA in Software engineering major)
- 2018 Braithwaite Business Scholarship
- Dean's Honours list

## EXPERIENCE

**Arctic Wolf Networks** May 2018 - August 2018, January 2019 - August 2019
*Member of technical staff* *Waterloo, ON*

- Used Esper, Apache Flink and Hadoop as part of a complex event processing pipeline to find patterns in unbounded series of real-time events
- Helped design and build time-series anomaly detection system
- Wrote independent auto-scaling services as part of a data processing pipeline that processed 22 billion messages per day
- Added metrics and stability alerts to services

**Carnegie Technologies** May 2017 - December 2017
*Native back-end developer* *Waterloo, ON*

- 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

## OPEN SOURCE CONTRIBUTIONS

**netmail-open/wjelement**
*November 2017*
- Found and fixed bug causing library not to compile with glibc
- Added date-time support to JSON schema verification system

**avast-tl/retdec**
*December 2017*
- Proposed and added Docker support

**DefinitelyTyped/DefinitelyTyped**
*July 2017*
- 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 FRC team, "MMRambotics", team 2200* *Burlington, ON*

- Created various sub-systems for functional mechanisms
- Used PIDF closed-loop control, computer vision, motion profiling, path following, etc. for autonomous control of robot
- Used encoders, potentiometers, limit switches, line followers, ultrasonic rangefinders & cameras as input data for control loops
- Taught high-school students about control flow, program structure, git & the above

## TECHNICAL STRENGTHS

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|---|---|
| **Computer Languages** | C, Python, Java, C++, Bash, Node.js |
| **Tools** | Linux, Git, Docker, Command-line tools, Flink, Esper, Hadoop, ElasticSearch, AWS-{S3, EC2, ECS, EMR}, UML, RabbitMQ, Vim, LaTeX |
| **Development Practices** | Waterfall, Agile: {Scrum, Spiral}, Risk management, Technical reviews, Measurement, Configuration management, Quality assurance |