HUGO KLEPSCH

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EXPERIENCE

Arctic Wolf Networks May 2018 - August 2018, January 2019 - August 2019, July 2020 - Present
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
- Lead design and implementation of auto-scaling microservices supporting over 350000 messages per second
- Integrated new functionality without downtime into a data analysis pipeline processing 50 billion messages per day
- Used Agile development techniques to design, implement, and support software systems at all stages of the software life-cycle

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

- Developed native C++ GPS and ephemeris libraries for use in embedded devices
- 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

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

PERSONAL PROJECTS

HugoKlepsch/Go-Snake
June 2021

- Created "Snake" AI to battle other snakes in battle-royale snake competition
- Won 1st in Platinum league out of hundreds of other competitors
- Used Dijkstra path-finding algorithm to optimize food intake
- Used Minimax algorithm to find game moves with highest chance of success

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 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

Computer Languages	Python, C, Java, Go, C++, Bash, Node.js
Tools	Linux, Git, Docker, K8s, Command-line tools, Flink, Esper, Hadoop, ElasticSearch, AWS-{S3, EC2, ECS, EMR, ElastiCache}, UML, RabbitMQ, Vim, LaTeX
Development Practices	Agile: {Scrum, Spiral}, Waterfall, Risk management, Technical reviews, Measurement, Configuration management, Quality assurance