

# Mackenzie Wilson

SOFTWARE ENGINEER

mackenziewilson@runbox.com  
github.com/mackwilson  
mackwilson.github.io  
+1 647.290.0836

## SKILL SUMMARY

- **Languages:** Microservices in Java, Go; Fullstack development in JavaScript; Scripting in Python
- **Tools:** Kafka, Kubernetes, Git, AWS (Aurora, RDS, EC2, Lambda, Dynamo), PostgreSQL
- **Frameworks:** DropWizard, React, Vue, Express, WebPack, SocketIO, Sci-kit Learn
- **Concepts:** Distributed computing, data streaming, ETL, REST APIs, machine learning
- **Communication:** Technical documentation, user research, public speaking

## EXPERIENCE

- Software Engineer** | Branch Metrics [Remote] *Waterloo, CAN | May 2020 - Present*
- Maintained Java/DropWizard and Node/Express microservices with 12 billion+ events per day
  - Built and monitored Kafka pipelines, AWS infrastructure, and Kubernetes deployments with Prometheus and CloudWatch metrics, Kibana logs, and command line tools
- Software Engineer Intern** | Branch Metrics *Redwood City, USA | May - Aug 2019*
- Implemented a distributed, RESTful Java/DropWizard microservice deployed on Kubernetes to filter and stream 8 billion+ events/ day from Kafka to a UI with <10 second latency
  - Designed, built, and deployed a web viewer for the logs with React, Express, Node, Webpack
  - Gathered user requirements to architect and scope the entire real-time log-streaming pipeline
  - Maintained Java/DropWizard microservices in Kubernetes on AWS with Prometheus metrics
- Software Engineer Intern** | Lyft *Seattle, USA | Jan - Apr 2019*
- Architected, implemented, and deployed a Go-lang microservice as a change-log data pipeline
  - Streamed data from AWS Aurora/RDS PostgreSQL replication logs to Kafka in near-real-time
  - Maintained and optimize Go microservices for concurrent performance, observability, usability
  - Improved company-wide design review process and actively maintained team documentation

## PROJECTS

- MeetMe** | Capstone Design Project *2019 - 2020*
- Developed a web app to promote connections between people with dementia and their carers
  - Built and managed server-side functionality with AWS Lambda, Node/Express, and DynamoDB
  - Organized stakeholder interviews, user testing, and designed and built a Vue/Vuex front end
- Baseball Hall of Fame Classifier** | Databases and Machine Learning Project *2019*
- Developed a 95%-accurate decision tree classifier with Python Sci-kit Learn including feature selection and cross-validation after open-source-dataset sanitization using PostgreSQL
- Network Queuing Simulations** | Computer Networks Projects *2020*
- Developed a discrete-event simulator in Python for CSMA/CD and router buffering of network packets to investigate efficiency and throughput metrics in various situations

## EDUCATION

- Bachelor of Applied Sciences, Biomedical Engineering, University of Waterloo** *2015-2020*
- Five 4-month co-op work terms (two international); one exchange term in Brisbane, Australia
  - Co-op Student of the Year nomination; Dean's Honours List; Varsity Rugby
  - *Relevant Courses:* Computer Networks, Controls, Databases, Data Structures and Algorithms

## LEADERSHIP

UWaterloo EngiQueers Club President, Orientation Week Leader, Community Kids Softball Coach

## INTERESTS

Rugby, skiing, ukulele, carpentry, canoeing, sound design, craft beer