Mitchell Kember

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SKILLS

Proficient: C, C++, Java, Ruby, Python.

Familiar: JavaScript, Go, Rust, Haskell, Clojure, Bash.

EXPERIENCE

Facebook, *Data Warehouse Storage team, Software Engineering Intern* • C++, JAVA — May – Aug 2017

- Designed and implemented a file expiration service for Facebook's data warehouse storage system.
- Took initiative to build missing end-to-end tests for another service, catching a major issue.
- Created a tool to automatically detect flaky unit tests, solving a pain point in the team's workflow.

Snowflake, *SQL team, Software Engineering Intern* • C++, JAVA — Jan – Apr and Sep – Dec 2016

- Designed and built a just-in-time LLVM code generation framework from scratch.
- Implemented, tested, and documented two new SQL data types system-wide: Time and Binary.
- Wrote efficient code in the query execution engine for many new SQL functions.

University of Waterloo, *Research Assistant* • JAVA, JAVASCRIPT — May – Aug 2016

- Developed a proof-checking system in Java to be used in *SE 212: Logic and Computation*.
- Created parsers for seven proof theories using ANTLR4, and built a web front end in JavaScript.

Shopify, *Platform team, Software Developer Intern* • RUBY ON RAILS — May – Aug 2015

- Led development on a project to connect merchants with Shopify Experts. Modelled communication data in MySQL, and wrote an algorithm to dispatch merchant requests to Experts in Ruby.
- Improved internal tools by implementing a flexible system for searching and filtering.

PROJECTS

Eva, *Scheme interpreter* • C — Oct 2015 – Dec 2016

- Designed and implemented a Scheme interpreter in C, focusing on simplicity and speed.

Analysis I, *Formalization of mathematical text* • LEAN — Sep – Oct 2016

- Formalized 50+ pages of logic and set theory in Lean, a dependently typed programming language.

Lindenmayer, *Fractal rendering web app* • GO, JAVASCRIPT — Jul – Sep 2015

- Created a web app to render fractal curves with a responsive, progressively enhanced user interface.

Lam, *Lambda-calculus language* • HASKELL — Jan – Sep 2015

- Designed a small language based on the λ-calculus and implemented its interpreter in Haskell.

ACHIEVEMENTS

Hack Western 2, *2nd place hackathon winner for Cirkvito, a circuit simulator web app* — Nov 2015

D. Aubrey Moodie Award, *Ottawa-Carleton District School Board top scholar (99.83%)* — 2013 – 2014

EDUCATION

University of Waterloo, *Bachelor of Software Engineering, 3.97 cumulative GPA* — 2014 – 2019 (expected)