Mitchell Kember

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SKILLS

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

Familiar: JavaScript, Go, Haskell, Clojure, SQL, Bash, LLVM assembly.

EXPERIENCE

Snowflake, *SQL Team, Software Engineering Intern*   Jan. – Apr. and Sep. – Dec. 2016
   — Worked on the Java and C++ layers of the Snowflake Elastic Data Warehouse.
   — 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, *Undergraduate Research Assistant*   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*   May – Aug. 2015
   — Worked on several Ruby on Rails projects, including the main Shopify product.
   — Led development on a project to connect merchants with Shopify Experts. Modelled communication data in MySQL, and developed 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.

Ledger, *Open-source accounting system, C++*   Mar. 2016 – present
   — Contributed to the open-source project Ledger, fixing several bugs.

Lindenmayer, *Fractal rendering web app, Go and 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, 4.0 GPA*   2014 – 2019 (expected)