SANDY MAGUIRE

+1 250 986 0250 | sandy@sandymaguire.me | isovector

Programming Experience

SUMMARY OF SKILLS

↪ Haskell (expert) ↪ Agda, Scala (fluent) ↪ C++, C#, JavaScript, Lua, PHP, Python (working proficiency)

Manifold Valley » Consultant

April 2023 → ongoing

WORK EXPERIENCE

↪ Led the implementation of industry best practices for development processes.

↪ Eliminated several classes of runtime errors by enforcing type-safety in core abstractions.

Wire » Consultant

October 2021 → April 2023

↪ Architected a Haskell compiler plugin to track and reify federated service calls at the type-level.

↪ Designed a property-based testing framework for verifying the correctness of algebraic effects.

Cofree Press » Author of Software Textbooks

March 2018 → November 2023

https://leanpub.com/u/sandy-maguire

↪ Certainty by Construction is used as the basis of a course taught at OST Zurich.

↪ Algebra-Driven Design; now the basis of a course taught at OST Zurich.

↪ Thinking with Types is used as the basis of a course taught at OST Zurich.

Formation/Takt » Senior Software Engineer

September 2016 → January 2018

↪ Increased new feature cadence by 30x after becoming lead of a four-person engineering team.

↪ Directed a team of three to implement a high-throughput, low-latency brokered streaming library.

Google » Software Engineer III

September 2015 → September 2016

↪ Led the architectural design of a user-defined permission model for the cloud.

↪ Improved compile times by 96% and test coverage by 65% for a service-critical internal compiler.

Meta/Facebook » Software Engineer Intern

January → April 2014

↪ Increased revenue by 0.5% after analyzing the advertising platform's spending behaviors.

↪ Improved site-wide response time by 0.4% by parallelizing the backend graph ranker.

Cornelis

2022 → ongoing

NOTABLE OPEN SOURCE

https://github.com/isovector/cornelis

↪ Tightly integrated Neovim with the Agda compiler, allowing for interactive proof assistance.

ImplicitCAD

2020 → 2021

https://github.com/Haskell-Things/ImplicitCAD

↪ Improved performance of single-core mesh rendering by ~2x.

↪ Reduced code duplication by 50% by reorganizing types to be shared between 2D and 3D.

Wingman for Haskell

2020 → 2023

https://github.com/haskell/haskell-language-server

↪ Developed an interactive tactic engine for Haskell, capable of robust, type-aware code synthesis.

Master of Computer Science

2023 → 2024 (voluntarily withdrawn)

FORMAL EDUCATION

Software Practices Lab, University of British Columbia, Vancouver, BC

Bachelor of Software Engineering

2010 → 2015

University of Waterloo, Waterloo, ON