SANDY MAGUIRE

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SUMMARY OF SKILLS

Programming Experience

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

WORK EXPERIENCE

Consultant (Programming Language Design) » Manifold Valley April 2023 → ongoing

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

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

Consultant (Infrastructure and Federation) » Wire 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.

Textbook Author » Cofree Press March 2018 → November 2023

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

↪ Wrote three textbooks on advanced programming techniques and high-quality software engineering.

↪ Algebra-Driven Design is used as the basis of a course taught at OST Zurich.

Senior Software Engineer » Takt September 2016 → January 2018

↪ Led a team of four to design a core subcomponent; subsequently increased new feature cadence by 30x.

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

Software Engineer III (Identity and Access Management) » Google September 2015 → September 2016

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

↪ Took ownership of a service-critical compiler; improved compile times by 96% and test coverage by 65%.

Software Engineer Intern (Ads Ranking) » Facebook January → April 2014

↪ Analyzed and improved the advertising platform's spending behaviors; increased revenue by 0.5%.

↪ Parallelized the backend graph ranker; improved site-wide response time by 0.4%.

NOTABLE OPEN SOURCE WORK

Author » Cornelis January 2022 → ongoing

https://github.com/isovector/cornelis

↪ Built a tight integration engine between Neovim and the Agda compiler, allowing interactive proof assistance.

Contributor » ImplicitCAD November 2020 → January 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.

Lead Developer » Wingman for Haskell September 2020 → July 2023

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

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

FORMAL EDUCATION

Master of Computer Science 2023 → 2024 (voluntarily withdrawn)

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

Bachelor of Software Engineering 2010 → 2015

University of Waterloo, Waterloo, ON

MISCELLANY

Interests

model checking, proof assistants, music, functional programming, compilers, robotics, electronics, math pedagogy