

SIMON ZENG

Software Engineer

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🌐 simonzeng.com

in s-zeng1

🔗 s-zeng

EXPERIENCE

TQ Tezos :: Software Engineering Intern

OCaml Ruby Haskell

📅 September 2020 – December 2020

📍 New York, New York

- Expected to contribute to OCaml, Ruby, or Haskell products

Tesla Inc :: Software Engineering Intern (Firmware Tooling)

Haskell Python Java

📅 January 2020 – August 2020

📍 Palo Alto, California

- Developed and maintained large Haskell code base responsible for automated firmware documentation, signal, and code generation
- Improved Haskell products' performance and runtimes by over 20%
- Responsible for design and implementation of core version control verification infrastructure employed by entire firmware organization
- Designed and developed robust firmware signal inspection architecture with Java and modern statically typed Python

Ericsson :: Software Engineering Intern (Performance)

Clojure Python

📅 May 2019 – August 2019

📍 Kanata, Ontario

- Developed pure functional Clojure metrics infrastructure to monitor complex JVM architectures, allowing for insight and discovery of multiple performance issues
- Implemented a parser and interpreter in Python for an internally designed domain specific language specifically tailored for highly variable performance evaluation environments, greatly reducing workload for performance team

CENX Inc :: Software Engineering Intern (Test Automation)

Python Networking Security

📅 July 2017 – September 2017

📍 Ottawa, Ontario

- Developed robust automated UI-testing Python framework for load-testing web applications
- Created custom implementation of IETF RFC socket protocols to debug non-standard network stacks
- Discovered multiple security issues, including cryptography weaknesses, via automated fuzzing

inBay Technologies :: Software Engineering Intern (Full Stack)

Ruby Rails Javascript HTML/CSS

📅 July 2016 – August 2016

📍 Kanata, Ontario

- Developed internal tools with Ruby on Rails and Javascript

University of Waterloo :: Algebra Teaching Assistant

Number Theory Abstract Algebra Formal Logic

📅 September 2019 – December 2019

📍 Waterloo, Ontario

- Tutored classes of over 1000 students in number theory, abstract algebra, and formal logic
- Prepared careful individual tutoring lesson plans to ameliorate understanding in advanced topics such as quadratic reciprocity or interactive theorem proving

SUMMARY

- Professional experience in functional programming (Haskell, Clojure)
- Competent core development skills (Python, Java, Ruby, Javascript)
- Strong background in mathematics and formal methods

PROJECTS

Board to Latex

github.com/s-zeng/board-to-latex

React web app that transcribes photos of chalkboards and whiteboards to latex source, with OCR handled by a Python and Flask backend

Ragtime Generator

github.com/s-zeng/rag-shenanigans

A suite of Python scripts that fully automates the entire pipeline of AI-based ragtime generation, covering everything from automatically sourcing its own training data to outputting ragtime MIDI files on demand

MISC EXPERIENCE



Swim Instructor

Certified by Red Cross and Life Saving Society



Accordion Teacher

Offering private lessons



Camp Counsellor

For summer youth robotics camps

EDUCATION

Bachelor's of Computer Science

University of Waterloo

📍 Waterloo, Ontario