

SIMON ZENG

Software Engineer

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in s-zeng1

s-zeng

EXPERIENCE

Tesla Inc :: Software Engineering Intern (Firmware Tooling)

Haskell Python Java

January 2020 – April 2020

Palo Alto, California

- Developed and maintained large Haskell code base responsible for automated firmware documentation and code generation
- Instrumented and completed an extensive porting undertaking from legacy Haskell codebases to modern statically typed Python
- Responsible for design and implementation of core version control verification infrastructure employed by entire firmware organization

Ericsson :: Software Engineering Intern (Performance)

Clojure Python

May 2019 – August 2019

Kanata, Ontario

- Developed pure functional Clojure metrics infrastructure to monitor complex JVM architectures
- Implemented a parser and interpreter in Python for an internally designed domain specific language specifically tailored for highly variable performance evaluation environments

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

- Created internal use development tools backed by Ruby on Rails and NodeJS to monitor and debug specialized production systems

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-shenanigann

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