SIMON ZENG

Software Developer

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EXPERIENCE

Performance Engineering Co-op

Ericsson

May 2019 – August 2019 Kanata, Ontario

- Developed a pure functional **Clojure** metrics library to monitor complex JVM architectures
- Implemented a parser and interpreter in **Python** for an internally designed domain specific language

Test Automation Intern

CENX

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

Full Stack Web Development Intern

inBay Technologies

July 2016 – August 2016 Kanata, Ontario

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

PROJECTS

Board To Latex

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

- **React** webapp that transcribes photos of chalkboards and whiteboards to latex, with OCR handled by a **Flask** backend

Machine Learning Ragtime Generator

github.com/s-zeng/rag-shenanigann

- A suite of **Python** scripts that scrape ragtime MIDI files from the web, and preprocesses them into a custom machine-readable format designed for easy neural network training, then converts model output back to midi

Tiny Polynomial Interpolator

github.com/s-zeng/interpoly

- Extremely small polynomial interpolating CLI tool written in 15 lines (447 bytes) of **Haskell**
- Uses a custom technique with better precision than Lagrange interpolation

SUMMARY

- Professional experience in **Python**, **Clojure**, and web development
- Robust background in functional programming (i.e. **Scheme**, **Haskell**, **Clojure**, **Scala**)

COURSEWORK

- Object Oriented Programming (CS 146, CS 246E)
- Functional Programming and Lambda Calculus [Haskell, Scala, Scheme] (CS 145, CS 146, CS 241E)
- Compilers and Interpreters (CS 146, CS 241E)
- Formal Proofs, and Proof assistants (MATH 145, CS 245E)
- Number Theory and Cryptography (MATH 145, PMATH 340)

MISC. EXPERIENCE

- MATH 135/136 (Algebra and Linear Algebra) Teaching Assistant [2019]
- PMATH 340 (Elementary Number Theory) Private Tutor [2019]
- Swim instructor [2018]
- STEM Camp Counsellor [2017]
- A/V Co-ordinator [2015]

EDUCATION

Honours Computer Science, Co-op

University of Waterloo

September 2018 – May 2023 (expected)

2^{nd} Year | Major Average: 88.5%