

# SIMON ZENG

## Software Developer

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## EXPERIENCE

### Performance Engineering/Test Automation Co-op

#### CENX

July 2017 – September 2017

Ottawa, Ontario

- Automated stress testing on company infrastructure using **Python**
- Developed custom TCP-interfacing implementations of IETF RFCs in **Bash** and **Python** to debug non standards-compliant network stacks
- Caught and reported multiple bugs and issues in **Clojure** code, leading to large performance increases and major security fixes

### Full Stack Web Development Intern

#### inBay Technologies

July 2016 – August 2016

Kanata, Ontario

- Fetches and formats statistics and metrics from network APIs using **Ruby (on Rails)** and **Sinatra**
- Constructed front-end web pages using **HTML**, **CSS**, and **Coffeescript** to present statistics to clients

## PROJECTS

### Polynomial Interpolator

[github.com/s-zeng/interpoly](https://github.com/s-zeng/interpoly)

- Developed a small **Haskell** based CLI utility that generates minimum degree polynomials to interpolate over finite lists of numbers

### Neural Network Based Automatic MIDI Music Generator

[github.com/s-zeng/rag-shenanigann](https://github.com/s-zeng/rag-shenanigann)

- Scraped and preprocessed web MIDI files into neural network consumable text format with a suite of **Python** scripts
- Automated process of MIDI manipulation and neural network training using **Docker**

### Discord API Music Player Bot

[github.com/s-zeng/Zengyatta](https://github.com/s-zeng/Zengyatta)

- Interfaced with the Discord REST API using **Java** to create a bot that plays music in voice channels
- Reverse engineered Bandcamp's web services to enable the use of Bandcamp links as a music source

## SUMMARY

- Professional experience in **Python**, **Clojure**, and web development
- Robust background in functional programming (i.e. **Scheme**, **Haskell**, **Clojure**)
- Strong interest in security, networks, and low level engineering

## SKILLS

### Languages

Python Java Clojure Scheme  
Haskell Bash Script C Ruby  
Javascript Coffeescript HTML CSS

### Tools and Technologies

Linux (Arch) Vim Latex Git TCP  
Ruby on Rails Sinatra Docker

## AWARDS & CERTIFICATIONS



### ECOO CS Contest Finalist

Lead high school computer science team to a 2nd place finish in Eastern Ontario



### Canadian Computing Contest Honour Roll

Placed in top 50 out of almost 2000 contestants

## EDUCATION

### Honours Computer Science, Co-op

#### University of Waterloo

September 2018 – May 2023 (expected)

Major Average: 91%