

# Simon Zeng

<http://simonzeng.com>  
contact@simonzeng.com | 613.983.9079

## EDUCATION

### UNIVERSITY OF WATERLOO

#### COMPUTER SCIENCE

Expected April 2023

Cum. GPA: 85.5

Major GPA: 88.4

## MISC EXPERIENCE

Teaching Assistant (Algebra) | 2019

Math tutor (Number Theory) | 2019

Swim Instructor | 2018

STEM Camp Counsellor | 2017

A/V Co-ordinator | 2015

## CONTESTS

Top 250 teams, Google CTF | 2019

Top 150 teams, Backdoor CTF | 2019

## SKILLS

Python • Clojure/Lisp/Scheme • Java •  
Ruby • Haskell • Javascript • HTML/CSS

## EXPERIENCE

### ERICSSON CANADA | PERFORMANCE ENGINEERING CO-OP

CLOJURE PYTHON

May 2019 – Aug 2019 | Kanata, ON

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

### CENX INC. | TEST AUTOMATION INTERN

PYTHON BASH JAVA

June 2017 – Sept 2017 | Ottawa, ON

- Developed robust automated UI testing 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 | FULL STACK WEB DEVELOPMENT INTERN

RUBY ON RAILS COFFEESCRIPT HTML/CSS

June 2016 – July 2016 | Kanata, ON

- Created internal use development tools to aid in monitoring and debugging of production servers

## PROJECTS

### MACHINE LEARNING RAGTIME GENERATOR

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

- Scrapes 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
- Automates the entire training pipeline via dockerized pytorch and custom scripts

### TINY POLYNOMIAL INTERPOLATOR

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

- Extremely small polynomial interpolator CLI tool written in 15 lines (447 bytes) of Haskell
- Uses a custom technique with better precision than Lagrange interpolation
- Available on the Arch User Repositories as aur/interpoly

### FAT TOOLS

[github.com/s-zeng/fat-tools](https://github.com/s-zeng/fat-tools) | Python

- A suite of scripts that can split apart and merge together large files.
- Designed to allow large files to be stored on FAT32 drives.