

# Guanzhong Chen

Waterloo, ON, Canada

+1 (650) 735-1884 • [me@guanzhong.ca](mailto:me@guanzhong.ca) • <https://guanzhong.ca>  
[quantum5](#) • [quantum](#) • [guanzhong-chen](#)

## Academics

### University of Waterloo

Bachelor of Software Engineering, 3A

Waterloo, ON, Canada

2016 – 2021

### Achievements

- Software Engineering First in Class Scholarship, with 95.22% cumulative average
- Silver medallist in Canadian Computing Olympiad in 2015 and 2016 (around top 10 in Canada)

## Professional Experience

### DMOJ: Modern Online Judge (DMOJ)

Co-founder, Main Developer

Toronto, ON, Canada

2014 – present

Founded [dmoj.ca](#), a free and open source online judge and programming contest platform, with over 20 000 users, 1700 problems, and 300 contests, including 3 national olympiads.

- Created a distributed code execution system capable of dynamically scaling to hundreds of nodes
- Implemented flexible sandboxes for Linux, FreeBSD and Windows, supporting over 60 languages

**Technologies used:** Python, Django, MySQL, Jinja2+HTML, SASS, JavaScript, C, C++, Node.js, Java, Assembly

### ESCRYPT (subsidiary of Robert Bosch GmbH)

Secure Software Developer

Waterloo, ON, Canada

Sept 2018 – Dec 2018

Member of CysurV2X team, developing a toolkit for vehicle to vehicle and vehicle to infrastructure communication.

**Technologies used:** C++, Node.js, Python, Docker

### Wish (ContextLogic, Inc.)

Software Engineering Intern

San Francisco, CA, United States

Jan 2018 – Apr 2018

Member of the merchant website team for the Wish e-commerce platform.

- Improved SMS delivery rate and encouraged over 100 000 users to enable SMS-based two factor authentication
- Implemented security features, e.g. device management and email notifications, to protect merchant payment

**Technologies used:** Python, Tornado, MongoDB, JavaScript, SCSS

### Akindi Inc.

Back-End/Full-Stack Software Developer

Toronto, ON, Canada

May 2017 – Aug 2017

Worked on Akindi, a multiple choice test grading system that marks scanned answer sheets.

- Created a system to parse PDF of multiple choice tests to obtain questions and answer choices, and used it:
  - to make answer keys visually by letting teachers answer the test online
  - to shuffle questions and answers to generate multiple versions of the same test
- Implemented a flexible permission system to support content sharing between teachers

**Technologies used:** Python, Django, PDF, SVG, d3.js, AngularJS, Java, PostgreSQL, L<sup>A</sup>T<sub>E</sub>X

## Sample of Personal Projects

**Punyverse:** Solar system simulator written in Python using modern OpenGL.

[quantum5/punyverse](#)

**MusicKeyboard:** Virtual piano written in C++ as a native Win32 application.

[quantum5/MusicKeyboard](#)

**optimize-later:** Tool to select slow blocks of code to help you optimize Python.

[quantum5/optimize-later](#)

**2048:** Clone of the popular 2048 game written in Python using PyGame.

[quantum5/2048](#)

**tiva-music:** Music player for an embedded system: the Tiva Launchpad.

[quantum5/tiva-music](#)

More projects are available on [my projects page](#) and [GitHub profile](#).