

Guanzhong Chen

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[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 24 000 users, 1900 problems, 1 million user-submitted programs, and 400 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, executing user-submitted code in over 60 languages

Technologies used: Python, Django, C, C++, MySQL, Git, HTML, SASS, JavaScript, Java, Assembly, and more...

ESCRYPT (subsidiary of Robert Bosch GmbH)

Secure Software Developer

Waterloo, ON, Canada

Sept 2018 – Dec 2018

Member of CysurV2X team: worked on a toolkit for vehicle-to-vehicle and vehicle-to-infrastructure communication.

- Improved and stabilized an internal proof-of-concept system into a customer-ready product
- Designed and implemented a full system for SSL termination and certificate renewal with nginx and Let's Encrypt

Technologies used: C++, Node.js, Git (gerrit), Python, Docker, nginx, Jira, Confluence, Jenkins

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, Backbone.js, Git, Phabricator, Grafana, Prometheus

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 generate versions with shuffled questions and answers
- Implemented a flexible permission system to support content sharing between teachers

Technologies used: Python, Django, Celery, PDF, SVG, d3.js, AngularJS, Java, PostgreSQL, L^AT_EX

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 detect 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](#)

Other skills: Linux server management, Unix shell, VPN, Jenkins, Jekyll, Scala, Haskell

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