

# Thomas Cheng

SOFTWARE ENGINEER

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## Skills

**Languages** Python · Golang · SQL · Java · JavaScript · Typescript · C/C++ · Swift

**Technologies** React · Redux · Git · Docker · Flask · Next.js · Node.js · Express · PostgreSQL · MongoDB

## Experience

### Arctic Wolf Networks

Waterloo, ON (Remote)

SOFTWARE ENGINEER

Jan. 2022 - Apr. 2022

- Refactored observation logic to add event-specific data enrichment, reducing the number of false-positive errors from being processed by **90%** and improving maintainability of **Golang** codebase
- Designed and implemented new **PostgreSQL** table schema to support upcoming Joval vulnerability scan feature
- Built new API endpoints in **Golang** to facilitate the transfer of Joval vulnerability scan to another team

### Prodigy Education

Toronto, ON (Remote)

FULL STACK DEVELOPER

May. 2021 - Aug. 2021

- Built a **Node.js** automation script for creating and deploying A/B test experiments, reducing setup times by **17%**
- Overhauled **React** frontend and **Redux** datastore to support new multi-tiered product structure for product revamp
- Identified changes required to migrate backend from monolithic to microservice architecture by analyzing **Node.js** services and **GraphQL** resolvers and documented investigation in technical design document

### PiinPoint

Waterloo, ON (Remote)

FULL STACK DEVELOPER

Sept. 2020 - Dec. 2020

- Overhauled **React** webapp and **MongoDB** backend to support new data parsing and permissions management
- Built REST API endpoints using **Python** and **Django** to support custom display options for client-generated demographics reports
- Designed a **Python** script to update **PostgreSQL** table with latest Spatial.ai data reducing processing time by **75%**

### MappedIn

Waterloo, ON

SOFTWARE ENGINEER

Jan. 2020 - Apr. 2020

- Built new multi-select feature for upcoming leasing tool using **React** and **MobX** to calculate combined square footage
- Engineered a solution in **Javascript** to fix critical bug in the internal map editor's geometry alignment script
- Remodeled **three.js** scene-rendering feature in proprietary map editor, reducing web browser memory usage by **30%**

### MappedIn

Waterloo, ON

SOFTWARE DEVELOPER IN TEST

May. 2019 - Aug. 2019

- Spearheaded UI revamp of iOS demo app in **Swift** and designed unit and integration tests for native iOS development, increasing code coverage by **27%**
- Overhauled **Appium** snapshot tests and **Jenkins** CI test suite, improving test reliability by **56%**
- Fixed an issue with A\* path-finding algorithm in proprietary Android SDK, resulting in more realistic path generation

## Projects

### KPopify

- Used **React**, **Express.js**, **Node.js**, and **PostgreSQL** to create an online music player app with 4 other members
- Designed and implemented **React** and **Redux** navigation between the search page and playlist page
- Built a recommendation feature to fetch most popular songs and artists across all playlists using **PostgreSQL** and **Node.js**

### PokéGuesser

- Built an interactive Discord bot using **Python**, **numpy**, **skimage** to randomly apply filters to obscure Pokémon images
- Utilized open source PokéAPI to retrieve Pokémon information and deployed project to an EC2 instance

## Education

### University of Waterloo

Waterloo, ON

CANDIDATE FOR HONOURS BACHELOR OF SOFTWARE ENGINEERING

Sept. 2018 - May. 2023

- Algorithms (**Python**) · Computer Networks (**Python**) · Concurrency and Parallel Programming (**C++**) · User Interfaces (**Java**) · Introduction to Database Management (**C++**, **SQL**) · Software Design and Architecture (**Java**)