

# Zoe Tian

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## WORK EXPERIENCE

### Dropbox

Seattle, WA

Infrastructure Software Engineer (Search Retrieval & ML team)

March 2022 - March 2024

- Designed and implemented Daggo: a 1.5-year project that transform query serving paths into a DAG structure in Golang
- Reduced P95 Search latency by 200ms through the application and deployment of Daggo
- Set up experiments to safely verify the latency gain in each DAG-ified components with live shadow traffic
- Created a visualization tool in D3.js for debugging and troubleshooting DAG execution latency
- Repeatedly analyzed critical path with Hive and DAG logs, modified framework and call paths accordingly, until hitting latency goal
- Improved paid enterprise user experience by fixing bugs in search with the eastern locales, and search by tags in Japanese during on-call rotations

### VMware

Toronto, ON

Member of Technical Staff II (Tanzu Application Platform)

April 2020 - March 2022

- Led the integration of Backstage.io as the developer portal foundation, reducing new service onboarding time by 70%
- Built automated service templates in Backstage.io, reducing microservice creation time by 60%
- Created Backstage plugins for VMware tools integration, serving 1000+ services
- Onboarded two new members onto the team, mentored junior engineers, and facilitate internal meetings

### Pivotal Software

Toronto, ON

Software Engineer (Concourse CI team)

June 2019 - April 2020

- Maintained and developed new features for Concourse CI in Golang and Elm followed strict TDD and Agile
- Scaled up the previous backend authentication flow for super admin users with large pipelines
- Re-wrote dashboard endpoints in Elm and improved the performance by 50% when loading complex responses
- Worked in a multi-cloud environment with AWS, GCP, VSphere; developed with Docker, Kubernetes, Terraform

### BitTitan

Bellevue, WA

Software Design Engineer Intern

May 2018 - Aug 2018

- Investigated and redesigned the backend for a multi-threaded mail migration service to run with docker containers on Azure in docker swarm mode
- Implemented a working swarm network prototype with the modified scheduler to assign the incoming migration jobs to swarm manager nodes on Azure in C#

## EDUCATION

### University of Waterloo

Waterloo, ON

Bachelor of Computer Science, Minor in Combinatorics & Optimization

2015 - 2019

## SKILLS

- Programming Language: Golang, Python, Java, and C++
- Web Development: JavaScript, TypeScript, React/ Redux, Node.js, D3.js
- Cloud Development: Linux/Unix System, Docker, Kubernetes, Terraform, AWS, GCP

## PROJECTS

### Midi Melody

[github.com/zoetian/midi\\_melody](https://github.com/zoetian/midi_melody)

YouTube Music Video Converter in Python

- Applied Youtube-dl library to convert random audio files into mp3
- Extract the melody from an audio file and convert it to MIDI notes
- Output piano keyboard canvas animation as learning tutorials with sheet script pdf

### Docker Filter

[github.com/zoetian/docker-filter](https://github.com/zoetian/docker-filter)

Tiny Image Processing Experiment

- Built a Serverless function to do style transfers with Docker, Openfaas, Tensorflow
- Supported 40+ different styles from Magenta's models

### Bustub - CMU Database 445/645

[github.com/zoetian/bustub](https://github.com/zoetian/bustub)

A relational database management system

- Built a disk-oriented database management system in C++ to support basic SQL