

Zhehai Zhang

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Education

University of Waterloo (4th Year)

COMPUTER SCIENCE WITH AI AND DIGITAL HARDWARE SPECIALIZATION

- 4.0 GPA (90.88%)

Waterloo, Ontario
Sep. 2020 - May. 2025

Skills

Languages Python, C++, C#, C, JavaScript/TypeScript, Go, Java/Kotlin, HTML/CSS, SQL, Bash, Rust, Swift
Tools Tensorflow, NumPy, Pandas, GCP/AWS/Azure, Node, GraphQL, React, Flask, Docker, Linux Administration
Courses Machine Learning (Python), AI and Reinforcement Learning (Python), Computer Networks (Python), Real Time Programming (C), Digital Hardware Systems (Verilog), Operating Systems (C++), Computer Architecture

Work Experience

LinkedIn

SOFTWARE ENGINEER

Sunnyvale, California
May. 2023 - Sep. 2023

- Developed custom **LinkedIn Recruiter** tooling which replaced **90%** of customer facing legacy metric and insight charts
- Simplified chart creation process by **80%** for **100+** engineers by creating reusable components in **JavaScript**
- Implemented chart tooling to enforce universal accessibility and i18n guidelines for **200,000+** customers
- Bundled Ember addon using **Webpack** to automate faster chart integrations on data visualization products

Vector Institute for Artificial Intelligence

UNDERGRADUATE RESEARCH ASSISTANT UNDER PROFESSOR PASCAL POUPART

Toronto, Ontario
Jan. 2024 - Present

- Leveraging **Q-Learning** and **DQN** reinforcement learning algorithms to simulate contextual bandit problems in **Python**
- Developing a **variational autoencoder** in **JAX** using simulator generated datasets for general foundational models

BitGo

SOFTWARE ENGINEER

Palo Alto, California
Jan. 2023 - May. 2023

- Built core features in Bitgo's Web3 Wallet over Android, iOS using **React Native** and **TypeScript**
- Deployed checklist and watchlist features to production which directly resulted in **10K daily active mobile users**
- Created backup and restoring methods for crypto passphrases using Google Drive backup and iCloud backup protocols
- Identified and fixed dashboard logic issues on Bitgo's **main product**, unblocking many of Bitgo's important clients

Splunk

SOFTWARE ENGINEER

Toronto, Ontario
May. 2022 - Aug. 2022

- Worked on a IoT monitoring device over embedded (**Python**), backend (**GraphQL Flask**) and iOS (**Swift**)
- Deployed a status lighting feature to prod which allowed customers to control and determine the state of the device
- Discovered and fixed **security vulnerabilities** with the backend, **improved 20% user interface latency** by threading end-point calls and refactoring code in preparation for Public Beta

Projects

VRIoT - Virtual Reality Manager for IoT Devices

MIT Reality Hacks Winner
Jan. 2023

MICROPYTHON, C#, RUST

- Built VR application in **Unity** to interface with IoT devices in real time, winning **two category prizes**
- Implemented **Rust** backend to proxy **bidirectional traffic** between IoT devices and VR headsets
- Used ESP32 microcontrollers running **Micropython** to control an alarm system, multiroom lighting and smart doorbell

InDaBin - Smart Disposal Tracker

Ignition Hacks 2022 Winner
Aug. 2022

GO, RUST, FLUTTER, RASPBERRY PI, POSTGRESQL, DOCKER, GOOGLE VISION

- Engineered a hardware garbage sorter with image detection using **OpenCV** and **Bluetooth**, which won **First Place**
- Developed a **Go Rest API** that identifies disposables and sorts them using **Google Vision** and **Text to Speech**

9it - Lightweight Version Control System

C, LINUX

Jan. 2021

- Implemented a version control system from scratch in **C** that supports staging, committing, reverting and branching
- Leveraged binary I/O, command-line argument parsing and was packaged for **Linux distributions** such as Debian and Arch

Awards

2020 **René Descartes National Math Scholarship, \$25,000** awarded to **less than 10** students

UWaterloo