Hao Wu

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EDUCATION

Northeastern University, Canada, Master of Computer Science   Jan. 2023-Current

University of Tokyo, Master of Engineering   Apr. 2019-Mar. 2021

Harbin Institute of Technology, Bachelor of Engineering & English   Sept. 2013-July 2018

- **University of California, Berkeley,** Berkeley Global Access   Jan. 2016-May 2016

SKILL

Languages: Java, C, C++, Python, JavaScript, TypeScript, SQL, Shell, HTML, CSS, Bash

Frameworks/Databases: Spring Boot, MyBatis, Express, MySQL, PostgreSQL, MongoDB, Redis

DevOps/Cloud: Docker, Kubernetes, GitLab CI/CD, AWS, GCP, NGINX, Zookeeper, Kafka, RabbitMQ, RocketMQ

Frontend/Testing/Tools: React, Redux, Git, Linux, Maven, IDEA

WORK EXPERIENCE

Talent Software Developer Co-op | **Teck Resources Limited** | Vancouver, Canada   Aug. 2024-May 2025

- Designed and implemented an automated synchronization system for ATS platforms, utilizing **API, OOP, Python, Power Platform, and virtual machines,** effectively reducing manual intervention and boosting system reliability
- Directed and executed **comprehensive system** testing with cross-functional teams to ensure functionality and reliability from both user and system perspectives, proactively identifying and resolving potential issues
- **Designed and implemented a ticketing system** integrated with **Power Automate, SharePoint, Power BI, Teams, and Azure DevOps**, enhancing team collaboration through an intuitive interface that captures chat messages, dynamically updates DevOps ticket statuses, and generates reports via **Power BI and Azure DevOps** for improved tracking and decision-making.
- Engineered and optimized talent acquisition workflows for a leading global mining company, integrating and managing over **18 enterprise applications**, including **Applicant Tracking Systems** (Lever and SAP)

Senior Associate | **CITIC Securities, Investment Banking Committee** | Shenzhen, China   May 2021-Apr. 2022

- Collaborated with multidisciplinary teams to structure **IPO/M&A** financial solutions and deliver strategy consulting for top-tier manufacturing and energy clients at CITIC, **ranked No. 1 in the 2022** Global IPO Ranking

PROJECT

GuideSense: Winner (1st Place), Microsoft × Snapdragon Hackathon

A real-time navigation system that leverages computer vision and audio feedback to guide visually impaired users

- Integrated **YOLOv5** object detection and **OpenCV** to process live video streams and identify spatial obstacles and pedestrian pathways with high accuracy
- Designed an interactive user interface that provides audio alerts and vibration cues based on object type, direction, and proximity
- Developed a real-time **audio feedback engine** using Python **multithreading**, cross-platform **TTS**, and debounced message queuing with prioritization, enabling low-latency spatial alerts and adaptive urgency cues

Distributed KV Storage System

A high-performance KV storage system using Raft, achieving 8,000 ops/sec, sub-ms latency, and 99% uptime

- **Implemented a distributed consensus protocol based on Raft**, incorporating mechanisms such as leader election, log synchronization, and snapshot management to maintain data integrity and fault tolerance across multiple nodes
- **Designed a modular storage architecture** that supports diverse engines, including RocksDB, B-tree, and hash tables, enhancing adaptability to different I/O models and maximizing storage efficiency
- **Optimized read/write throughput by 90%** by leveraging advanced techniques such as asynchronous log application, ReadIndex optimization, and follower-initiated read requests
- **Enhanced system stability with PreVote technology**, minimizing unnecessary leadership transitions and ensuring 99% uptime even under heavy workloads.