

MENGYU “JACK” ZHANG



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EXPERIENCE

Software Developer
/Data Scientist

Children’s Hospital Los Angeles

Jan 2021 - Oct 2023 (part-time before 2022)

- Software development and Machine Learning research focused on EEG and signal processing.
- Developed machine learning based software that analyze and remove noise from infant EEG data using methods like Signal Processing (blind source separation), Computer Vision (movement analysis), resulting in up to 90% correct noise removal when compared to visual noise inspection results.
- Built in-house and contributed to open source projects like graphical data analysis full stack apps, participant recognition and tracking systems, and EEG IO tools as part of the research infrastructure.

Python / JavaScript / TensorFlow / Signal Processing / Computer Vision / EEG / MatLab

Software Developer
Intern

Royal Bank of Canada, Amplify

May 2021 - Aug 2021

- Built the first end-to-end YAML-configured monitoring deployment tool on RBC’s Site Reliability Engineering team. Advanced its infrastructure-as-code initiative and increased both its monitoring coverage and operational efficiency.
- Automated tasks like Prometheus onboarding using Consul and deploying Grafana dashboard templates for tools like MongoDB using Jsonnet with an 86% target stack coverage.
- My key contributions: configuration generator, deployer, YAML processor, and UI components.

JavaScript / Python / Flask / React / Kubernetes / IaC / Jsonnet / Docusaurus

Teaching Assistant

University of Southern California, CS@SC

Jun 2020 - May 2021

- Taught Python, Java, and Web development to students of different levels from middle/high school.
- Helped students understand programming concepts and debug their code.
- Created unit tests for student assignments, wrote quizzes and review questions for the students.

Java / JavaScript / Python

EDUCATION

B.S. in
Computer Science

University of Southern California

2019 – 2022

Bachelor of Science in Computer Science (GPA: 3.8/4.0)

- Relevant Coursework: Software Development, Advanced Data Structures & Algorithms, Operating Systems & Networking, Computer and Network Security, Computer Architecture, Computer Organization, Machine Learning, Artificial Intelligence, Probability Theory, Linear Algebra, Calculus, Discrete Math

PROJECTS

Personal Project
Full Stack

Shopper

Since Oct 2023

Purpose: one-stop solution for comparing grocery prices across different places.

Built a web app that compares grocery prices from different stores and retailers. Supports unit price conversion and comparison. Features reactive front end built with Svelte.

Svelte / JavaScript / Go / SQLite / Cloudflare Workers

Personal Project
Android &
Back end

“KnockKnock”

Since Oct 2018

Purpose: video conferencing app with unique features that suits my needs.

Built a WebRTC based video conferencing app with features like real-time captioning, language identification, noise-cancelling, and manual camera controls. Used Machine Learning for audio/image processing.

Android / Kotlin / Java / WebRTC / Python / Firebase / PHP / C++ / TensorFlow

Project Lead
Full Stack

GreatFinds

Sep 2020 to Nov 2020

Software Development class final project, a platform that allows users to share all kinds of media content. Utilized the Java EE stack to develop server-client platform. Built the project structure with core components like JPA (database) and JSF. Led and coordinated efforts among all group members.

Java EE / JSF / JPA / MySQL / JavaScript

Personal Project
Cross Platform

Decide for Me

Aug 2022 - Oct 2023

Purpose: let the computer decide on places like restaurants for me to avoid making hard decisions.

Built a cross-platform Flutter app that can pick places for the user randomly, weighed by ratings, using Yelp’s Fusion API. Supports filters based on location, distance, price, rating, hours, and more.

Flutter / Dart / JavaScript / Riverpod / Android

...more at jackzhang.me/projects

SKILLS AND TECHNOLOGIES

Languages: Python, JavaScript, Java, C/C++, Kotlin, SQL, HTML/CSS, Go, PHP, Bash, MATLAB.

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Frameworks/Tools: Android, React, Node.js, Svelte, Flask, Flutter, Firebase, TensorFlow, Java EE, MySQL, GCP, AWS, NumPy, JUnit, pytest, Linux, WebRTC, Git, CI.

ACTIVITIES/INTERESTS

Machine Learning

ACM

Hackathons (e.g. HackSC, HackMerced)

Answering questions on [Stack Overflow](https://stackoverflow.com)

CTFs (e.g. picoCTF: 400/16000)

MORE

Learn more about me and check out the latest version of this resume at

jackzhang.me/resume

