Zach Zhong

z1zhong@ucsd.edu | 626-678-7725 | Linkdin | Github

EDUCATION

University of California - San Diego
BS, Computer Science   **September 2020 - June 2024**
- **Award:** IDEA Scholar, Marshall College Honors Prog, Provost Honors
- **Major GPA**: 3.837
- **Coursework**: Advanced Data Structure; Design Analysis of Algorithm; Deep Learning; Recommender System; Operating Systems; Computer Network; Computer Security; Database System Implementation

---

EXPERIENCE

University of California San Diego   **Mar 2023 - June 2023**
Computer Science and Engineering Instructional Assistant
- Tutored a class in **Reinforcement Learning** with over **300** students through discussions and holding weekly office hours.
- Prepared and presented slides for discussions, which were recorded and made available to all students through the UCSD podcasts.
- Took proactive initiative in developing **Python** scripts to streamline and expedite the grading process for the Final Exam, benefiting the entire teaching staff by saving significant time and effort.

CutiePet   **Nov 2022 - Mar 2023**
Tech Lead / Front End Developer
- Developed the frontend for a user-friendly and interactive social media app for pet owners using **React Native**, **AWS**, and **MongoDB**.
- Implemented optimization techniques such as image caching and pre-loading, resulting in over **200%** improvement in total profile loading time.
- Refactored existing code into **Typescript** and built reusable components like hooks, forms, and contexts to enhance code readability.
- Integrated **websocket** technology to allow for live chat functionality and real-time updates on user matches.
- Mentored and onboarded new team members, collaborating closely with project managers and designers following agile principles.

South Hills Countdown   **Sep 2018 - Mar 2019**
Founder / Front End Developer
- Led team of students in developing a cross-platform mobile app to serve over **1000+** students and teachers at the high school to remind them of class schedules and upcoming events.
- Built the frontend using **Xamarin.Forms** with **C#** following client side **MVC** pattern.
- Integrated app with **Google Firebase** and **push notification** to send real time reminders even when the device is off.
- Expanded cross-platform support by developing a menu bar application using **AppKit** for MacOS.

PROJECT

Data Collection Analytics Dashboard
- Built a data analytics website with LAMB(**Linux, Apache, MySQL**) stack to collect and analyze user data on a website.
- Configured and deployed the entire web app on **DigitalOcean** and setup reverse proxies with **Express.JS** for the backend.
- Utilized **server-side MVC** to dynamically serve appropriate files and to minimize load time for users.
- Developed a REST API with **session** based authentication and implemented permission based control for secure data access.
- Created a user site for **client-side data collection**, capturing user interactions like mouse movements, keyboard inputs, and other demographics.
- Built an admin dashboard with data visualization components such as heatmaps, charts, and grids to provide useful statistics and to help troubleshoot common **JavaScript** runtime error issues.

School Database Management System Git Repo
- Developed user friendly and interactive forms for CRUD operations using **HTML**, **CSS**, **Bootstrap**, **Java Servlet**, and Apache Tomcat.
- Designed a relational schema for the school's backend system using **PostgreSQL**, adhering to appropriate constraints and 3NF design principles.
- Wrote over **50** unit tests in **Python** to ensure correct functionality and constraint satisfaction.
- Optimized SQL queries using materialized views and update triggers, resulting in significant speed improvements for complex queries.

Steam Game Data Analytics Git Repo
- Built and fine tuned a deep learning model using **pytorch** to achieve 50% accuracy on how long a user plays a game based on profile.
- Deployed and compared results between different classifiers using the Sklearn library and created data visualizations for contrast.
- Collected data using the Steam API and performed data scraping to gather missing data, leveraging **pandas** and **numpy** in Python.

SKILLS

- **Tech Stacks:** React.JS, React Native, Xamarin Forms, Firebase, PostgreSQL, MySQL, MongolDB, AWS S3, AWS Lambda, AWS Cognito, Azure Cloud, Node.JS, Express.js, Django, JSP, Apache Tomcat, Git, Docker, DigitalOcean, Pytorch, Pandas.
- **Language and Tools**: C, C#, C++, Python, Javascript, Typescript, Java, PHP, HTML, CSS
- **Systems**: Verilog, ARM, x86, Linux