

ZIHANG HE

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EDUCATION

University of California, San Diego

San Diego, CA

B.S. Computer Science and Engineering (3.94/4.0)

September 2020 - June 2024

M.S. Computer Science and Engineering

September 2024 - June 2026(Expected)

Skills: C/C++, Python, Java, React, HTML, NodeJS, JavaScript, CSS, SQL, PHP, PyTorch, TensorFlow, Matlab, R

Relevant coursework: Parallel Computing, Optimization, Operating System, Algorithms, Data Structures, Networks

PROFESSIONAL EXPERIENCES

UCSD Safe Autonomous Systems Lab

San Diego, CA

Research Assistant

September 2022 - Present

- Developed predictive models for soft robotics using Python, integrating Graph Neural Networks and reinforcement learning techniques to enhance the accuracy and efficiency of motion predictions.
- Utilized PyBullet for dynamic robotics simulation and PyGame for real-time visualization, supporting the creation of complex datasets for AI training and evaluation.

UCLA Mobility Lab

Los Angeles, CA

Research Assistant

May 2023 - February 2024

- Contributed to the development of the first real-world vehicle-to-everything (V2X) cooperative perception dataset; responsibilities included data preparation and validation. ([Paper](#) accepted by ECCV 2024).

UCSD Recommender Systems Lab

San Diego, CA

Research Assistant

February 2023 - February 2024

- Developed [RecWizard](#), an open-source toolkit for conversational recommender systems. Designed the framework to be LLM-friendly and Hugging Face compatible, enhancing user flexibility. (Paper accepted by AAAI 2024).
- Implemented the KGSF recommendation and generation module within the designed framework.

Siemens Ltd.

Beijing, China

Data Analytics Intern

June 2023 - September 2023

- Contributed to building the AI chatbot for Siemens utilizing the Langchain framework; initiated data collection via web crawling, processed data, and architected the entire codebase. Further refined document retrieval methods by leveraging technical terms, categorizing user queries, and tailoring prompts for optimized responses.
- Independently developed a business forecasting project, using Keras and Optuna for automated hyperparameter selection; implemented 12 advanced models such as multiheadCNN and ConvLSTM. Thoroughly documented and packaged the solution for it to be used widely by different departments within Siemens.

Tatum Games

Santa Clarita, CA

Web Developer Intern

January 2023 - April 2023

- Developed and optimized SQL queries for dynamic data representation, enhancing the accuracy and speed of information displayed on the company's website.
- Utilized PHP and JavaScript to implement critical fixes and updates to the web platform, enhancing system stability and user experience.

PROJECTS

Aliens in Geisel: 3D Multiplayer Online Game Development

- Led the coding of game logic and core server/client modules for a from-scratch [3D multiplayer online game](#) using C++, OpenGL, GLFW, and glm.
- Developed and implemented a robust networking solution with WinSock2 to ensure optimal performance and real-time interaction for a global user base.

Smart Schedule Calendar: Full-stack Web Application

- Led a team in developing [Smart Schedule Calendar](#) which provides a local-first scheduling solution. The app allows users to assign tasks to particular time slots or automatically schedule tasks based on various parameters such as deadline, duration, priority, and difficulty.
- Developed the main scheduling algorithm for the application and implemented visualized todo lists using object-oriented data structures. Implemented Puppeteer.js tests for functional application testing.