HAO-CHEN WANG

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LinkedIn | Portfolio

SKILLS

HTML/CSS, Javascript, Python, Express.js, SQL, MongoDB, Docker, React, AWS, Azure, Git, CI/CD.

PROFESSIONAL EXPERIENCE

San Diego Supercomputer Center   **San Diego, CA**
Software Engineer Intern   *September 2022 - January 2023*
- Built a more scalable and efficient distributed backend for the HPC seismic wave simulation program AWP-ODC.
- Established AWS RDS cloud SQL database for 23% faster querying of seismic data than local database server.
- Orchestrated the Docker-containerized services with Kubernetes, resulting in improved resource utilization.
- **Skills:** C/C++, SQL, Docker, Kubernetes, Python, AWS Lambda, AWS RDS, Pyspark, CUDA. Agile Development.

Qualcomm Institute   **San Diego, CA**
Machine Learning R&D Intern   *August 2023 – Present*
- Design algorithms for predicting future states of a Citizens Broadband Radio Service Device (CBSD).
- Optimized multiple machine learning and deep learning models in Python to achieve an 87% prediction accuracy.
- Performed exploratory data analysis in Microsoft Excel to extract temporal patterns from CBSD state transitions.
- **Skills:** Python (Pandas), Machine Learning, Deep Learning, data science, data analysis, AWS, Microsoft Excel.

PROJECTS & OUTSIDE EXPERIENCE

Online Chess-and-Chat (http://24.199.96.224/:5000/register)
- Developed a full-stack Node.js online chess game that supports multi-player gaming and chatting.
- Built RESTful backend that allows real time client-server interaction using Express.js, Redis and Socket.IO.
- Designed SQL database schema and used Google MySQL server for permanent and scalable user data storage.
- **Skills:** HTML/CSS, Javascript, Google MySQL server, React.js, Express.js, Docker, Redis, Socket.IO, Bootstrap.

Spotify Playlist Quick Maker (https://react-spotify-playlist-maker.netlify.app)
- Developed a React + Django web app for searching music from Spotify library and saving playlists to their account.
- Built backend server that utilizes Spotify API to implement music fetch and playlist save mechanisms.
- Implemented secure user authorization mechanism with Spotify API, JSON Web Token and HTTP cookies.
- **Skills:** HTML/CSS, Javascript, Spotify API, MongoDB, React, Django, Docker, Redis, Bootstrap.

College Roommate Hub
- Developed a full-stack Node.js application for roommates to manage chores, bill payments and money transfers.
- Utilized MongoDB (NoSQL database) for user data storage.
- Built a CI/CD pipeline using Jenkins and Python.
- **Skills:** HTML/CSS, Javascript, MongoDB, React.js, Bootstrap. Jenkins. Agile Development.

ECE Undergraduate Student Council at UCSD   San Diego, CA
Professional Chair   *February 2023 - September 2023*
- Led the organization of ECE professional events at UC San Diego with Qualcomm and ASML.
- **Skills**: verbal and written communication, event organization.

Certification: Microsoft Azure Accelerator 2022

EDUCATION

University of California - San Diego   **September 2021 - June 2025**
**Bachelor's*, Computer Engineering*   *GPA: 3.84*
**Minor*, Mathematics*   *GPA: 4.00*