Fiona (Haijian) Hou

FULL STACK SOFTWARE ENGINEER

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I am passionate about web development and skilled in problem-solving. I thrive on learning new skills and getting knowledge. With 5 SCI/EI journal publications and 9 conference papers, I have a strong research background.

TECHNICAL SKILLS • JavaScript • Python • Flask • React • HTML/CSS • REDUX • EXPRESS • NODE • SQLite
RELEVANT SKILLS • GitHub • VS Code •Websocket • AWS • dbdiagram.io

PROJECTS

MUSEIC | Github | Live   *React • Redux • Flask • Python • AWS*
- **AWS** services are used for audio file storage. And **FLask, SQLAlchemy** are used to create and seed database tables for related info.
- A dropdown menu is implemented to manage the adding, updating and deleting operation, with **useState** hook and **onClick** handler to toggle its visibility.
- Implemented an onClick event handler to control the visibility of lyrics, allowing users to toggle the number of lines displayed. **Redux thunk** and **dispatch** are used to fetch lyrics and other data from the backend.
- implemented a feature to create a song using **useState**, **useEffect**, and **useDispatch**.

PUZZLEPAW | Github | Live   *React • Redux • Flask • Python • AWS*
- Implemented an auto-scrolling display for liked comments, allowing users to quickly view popular comments. Utilized **useRef** to calculate **clientWidth/scrollWidth** and setInterval to control the scrolling interval timing.
- Created sidebar with dog's latest information and used **Context** to store pairing parameters to control the sidebar open or close. Users can perform **CRUD** actions from the sidebars.
- Utilized **useState** to define a pairing parameter, and **setInterval** to update it at regular intervals. The updated parameter is used as an index of photo arrays that is fetched from the backend stored in **Redux** states.
- All photos are stored using **AWS** and **FormData** is used to receive inputs and send the data to the backend where **wt-form** is used to validate data before creating/updating operations and seeding/updating data in tables.

CastleBnB | GitHub | Live   *React • Redux • Express • Websocket •SQLITE • Sequelize*
- implemented review management functionality using **redux** for state management, enabling users to seamlessly add, update, and delete their posted reviews.
- Implemented a feature for users discussing their thoughts by **Websocket**.
- Implemented a review feature using useState, **onMouseEnter**, and **onMouseLeave** events, allowing users to rank spots with 1-5 stars.

EXPERIENCE

Volunteer • *Mira Mesa Library* • San Diego, CA   06/2023 — present
- Hosting a conversation group, English learners can practice and make friends in the group.

Worker II • *Del Mar Union School District* • San Diego, CA   5/2023 – 9/2024
- Selected as the Employee of the Month, earned best custom
- Created engineering handcrafts and provided a friendly environment to inspire kids' creativity.

Antenna Engineer Intern • *Sunway Communication NARI* • San Diego, CA   9/2022 – 3/2023
- Setup, maintain and measure TDoA and PDoA systems.
- Designed mmWave Dielectric Resonator Antenna (DRA) 1✕8 mmWave DRA array, covered from 24.25 GHz-29.5 GHz and 37 GHz-43.5 GHz.

EDUCATION

APP ACADEMY • Full Stack Web Development   **Completed 03/2025**

Beijing JiaoTong University • Electromagnetic Field Theory and Microwave • Doctor's Degree • Beijing, China   **2018**

University of California • Visiting Student • San Diego, CA   **2014-2015**