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 • Vue • Angular • REDUX • EXPRESS • NODE • Django • SQLite

RELEVANT SKILLS • GitHub • VS Code • Websocket • AWS • dbdiagram.io

PROJECTS

MUSEIC | Github | Live   *React • Redux • Flask • Python • AWS*
- **AWS** services, **FLask, SQLAlchemy** are used for audio, image file storage and related info.
- 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*
- Launched features have **Drag and Drop** function so that users can rearrange the tips.
- Utilized **useRef** to calculate **clientWidth/scrollWidth** and **setInterva**l to control the scrolling interval timing for auto-scrolling display.
- 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.
- Carried out an image auto display by using **useState**, **setInterval** and **redux**.
- Utilized **AWS**, **FormData**, **wt-form** to receive and send data between frontend and backend.

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.
- Achieved a feature for users discussing their thoughts by **Websocket**.
- Introduced 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.
- Managed group dynamics and time allocation to ensure equal participation .

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.
- Organized and coordinated session schedules to ensure children's active participation and engagement.

Antenna Engineer Intern • *Sunway Communication NARI* • San Diego, CA   **9/2022 – 3/2023**
- Setup, maintain and measure TDoA (Time Difference of Arrival) and PDoA (Phase Difference of Arrival) systems.
- Simulated and compared the microwave coverages of a car in CST under various antenna arrays' radiations.
- 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**