Zhihong Liu

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SKILLS
Python, Javascript, Node.js, React, Redux, Express, Flask, Sequelize, SQLAlchemy, PostgreSQL, Sqlite3, Git, AWS, Docker, HTML5, CSS3, SQL

PROJECTS

Gulp   (Python, Flask, SQLAlchemy, Postgresql, React/Redux, Javascript, AWS, Google Map)   live | github
Inspired by Yelp, Gulp is an app that users can browse restaurants and write reviews on a specific restaurant.
- Stored uploaded images in the cloud of AWS S3 by creating a backend image upload route, improving page-load performance from its data scalability and capacity.
- Implemented custom search for businesses based on business name and location by dynamically determining the query keywords of user's input.
- Integrated Google Maps API with geolocation-based searching to display businesses on a map, so users can view interested businesses on the map.
- Automatically centered and highlighted the focused business's marker on Google Maps by utilizing React Hook useState to maintain the focused business's state.
- Updated the navigation bar accordingly by identifying the page's URL and current user type to optimize the user experience.

Outstagram (Python, Flask, SQLAlchemy, Postgresql, React/Redux, Javascript)   live | github
A group project of a clone of Instagram, users can post images, add comments, and add followings and likes.
- Designed the project workflow, cooperated with 3 other team members smoothly by working with a modular approach of separating features, and lowered the merge conflict.
- Realized the like function by one backend route, made the code Dry and the like function reliable.
- Constructed create/edit post modals that subscribe to React context changes to enhance user experience with seamless transitions.

meetnature (Javascript, Express, Sequelize, Postgresql, React/Redux)   live | github
Single page application that mirrors the functionality of meetup.com
- Used React component state and the Redux store to persist users, groups, events, and memberships data across the application, real-time updated data and improved user experience when navigated between different pages.
- Created custom SQL queries for group detail page with eager loading strategy to extract data from multiple tables in a single query, reducing server load.
- Implemented authorization features to enable user-specific functions such as only the group owner can edit/delete the group on the group detail page)

EXPERIENCE

Research Scientist | Austin, TX
2M Technology, LLC   Apr 2014 – Feb 2022
- Developed a process of manufacturing silver nano-mesh flexible transparent conducting film from concept to mass production.

Post-doctoral | San Marcos, TX
Texas State University-San Marcos   May 2011- Mar 2014
- Designed and built a control system for CVD systems with Labview and devicenet control components.

Post-doctoral |Houston, TX
University of Houston   May 2009 – Apr 2011
- Optical fiber-based extrinsic Fabry-Perot interferometric temperature sensors were fabricated and used in-pile environment.

EDUCATION

Software Engineering		App Academy	Apr 2022 - Sep 2022
Ph. D degree	Material Science and Engineering	Zhejiang University, China	Sep 2003 - Dec 2008
Bachelor's degree	Material Science and Engineering	Zhejiang University, China	Sep 1999 - Jun 2003