

Zhihong Liu

(713) 820-3906

zhihong.liu81@gmail.com

[PORTFOLIO](#)

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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)

[live](#) | [github](#)

Inspired by Yelp, Gulp is an app which publishes reviews about restaurants. Users can browse the restaurants and write reviews on a specific restaurant.

- Stored image uploads in the cloud with AWS S3, reducing server load and allowing app to scale gracefully.
- Used Redux store to create a single page app to dynamically render React components without page refresh.
- Created relational databases with Python and SQLAlchemy to easily querying, inserting, updating and deleting table information.
- Architected a RESTful API and specified custom logic utilizing switch statements that identify both the page and user type, and update the navigation bar accordingly, to optimize UI/UX 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 workflow of the project, cooperated with team members smoothly, and lowered the merge conflict.
- Realized the like function by one route, made the code Dry.
- Used React component and Redux store to provide a seamless UX/UI..

meetup-clone (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 data across the application, real-time updated data and improved user experience.
- Created relational databases with Express and Sequelize to maintain data, made the data flow faster and more reliable.
- Implemented authorization features to enable user-specific functions(e.g. only the group owner can add events on the group detail page)

EXPERIENCE

Research Scientist

2M Technology, LLC

April 2014 – February 2022

- Developed a process of manufacturing silver nano-mesh flexible transparent conducting film from concept to mass production.
- Collaborated with equipment suppliers to design and build required equipment.

Post-doctoral

Texas State University-San Marcos

May 2011- March 2014

- Designed and built a control system for CVD systems with Labview and devicenet control components.
- Developed a mass production method for graphene powder by using liquid Cu as catalyst.

Post-doctoral

University of Houston

May 2009 – April 2011

- Fabricated silicon-based light-emitting device. The PL and EL properties of the device were measured and the probable mechanism was proposed.
- Optical fiber-based extrinsic Fabry-Perot interferometric temperature sensors were fabricated. The temperature sensor made with sapphire fiber could be used in-pile environment.

EDUCATION

Software Engineering

App Academy

April 2022 - September 2022

Ph. D degree

Material Science and Engineering

Zhejiang University, China

September 2003 - December 2008

Bachelor's degree

Material Science and Engineering

Zhejiang University, China

September 1999 - June 2003