YUNZE (FRED) ZHAO

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EDUCATION

New York University（Master Degree, GPA: Unavaliable）　　　　　New York, The United States
Computer Engineering　　　　　　　　　　　　　　　　　　　　　　*09/2022-07/2024*
- **Core Courses:** Real Time Embedded System, Internet Protocal & Architecture, Advanced Hardware Design (VHDL & Verilog)

University of Washington（Bachelor Degree, GPA: 3.9/4.0）　　　Seattle, The United States
Geography: Data Science, Honor student　　　　　　　　　　　　　*09/2018-07/2022*
- **Core Courses:** R Programming(4.0), Client-side Development (React & Firebase, 4.0), Database & Data Modeling (MySQL, 3.9), GIS Database Programming & GIS Data Management and Visualization (4.0), Web Programming, Data Structures and Algorithms, Java I & II
- **Achievements:** Won the Honor Student Research, Mary Gates Research Scholarships and the 2022 Population Health Recognition Award

INTERNSHIP

OpenTug (https://opentug.com/)　　　　　　　　　　　　　　　　　*06/2022-Present*
Front-end Engineer

Designed and optimized 1/2 of the company's web pages, and realized the doubling of webpage loading speed, rendering speed and user experience, developed modular components, adjusted the data structure and search algorithm of core web pages, improved back-end routing strategy and version management, etc., helped the company design and optimize 1/2 web pages, including cards, search boxes and maps:

- Adjusted the core web front-end data structure, algorithm and the strategy, improved loading speed and degree of user experience: 1) independently adjusted front-end UI, search and filtering algorithm, reduced 4 redundant routing web sites/web pages and 80% unnecessary data presented to users, made the page loading speed increased by 200%, search speed increased by 50%, effectively improved users' experience degree; 2) Assisted the team to successfully improve the back-end routing strategy, and improved the front-end loading speed through caching and prefetching.
- Refactored 23% of the front-end codebase and developed more adaptive modular components to improve rendering speed and increase front-end flexibility: 1) Refactored 23% of the front-end codebase, adding annotations, introducing test-driven development, unit testing of previous functionality, and helping the team migrate to Solid; 2) Used ordinary Javascript and React.js to develop modular components suitable for the company's business model, and increase the feature rendering speed by 2 days on average; 3) Switched the front-end structure from server-side rendering to client-side rendering to increase the flexibility and performance of the front-end.
- Improved versioning, rapid development, and iteration capabilities: 1) Used standard Git Flow to realize version management; 2) Used UAVs to realize continuous integration and continuous delivery (CI/CD); 3) Used JIRA to realize agile development and rapid iteration.

UW SEAL (https://www.uwseal.org/)　　　　　　　　　　　　　　　　*09/2021-07/2022*
Front-end Developer/ EAC Team lead

Developed and designed 2 personnel management systems and 1 website for the Lab:

- Used React.js and React Redux, deployed on AWS to develop and manage staff login the portal (*https://www.uwseal.org/staff/*). Integrated different designs and different access controls for teachers, team leaders, and students.
- Led the team to develop the website in just one week for the University of Washington Energy Evaluation Center funded by the U.S. Department of Energy.
- Used Google App Scripts to develop plugins for data analyzations and visualizations in Google spreadsheets to facilitate the Lab's membership management.

PROJECT EXPERIENCE

Green Software Foundation & Microsoft Student Programs　　　　　*08/2021-07/2022*
Back-end Engineer

Built a database and API to integrate the power generation data collected in South Asian countries, used data indicators to determine the electricity consumption, electricity consumption area and time, so as to facilitate large technology companies to arrange the use and operation of large software and reduce carbon emissions:

- Collected data: Assisted the team in setting up an automated data collection system using Python (Scrapy) to scrape and organize power output data from Asian countries, while writing customize Item Pipeline for Scrappy to increase webpage crawl speed by 40%.
- Built a REST API: Built a REST API using Express.js with Application-level and Router-level middleware with multiple endpoints for different clients and data uploads.
- Built a database: Participated in MySQL database building for store procedures and business rules, and led discussion of several database designs and drew entity relationship diagrams for different database models.

Personal Project – Project-n (Live):

TechStack: React.js + Express.js(Rest API) + firebase (Non-relationtional DB) Hosting, now transferring GraphQl API & Typescript.
https://project-n.web.app/

LANGUAGES&TOOLS

- **Language:** Fluent in Chinese and English (TOEFL 115, GRE 333).
- **Programming Languages:** 1)The Front-end: Proficient in HTML, CSS, JavaScript, TypeScript, UI framework, JS framework (React.js, Node.js, Express.js, Solid.js, Next.js,etc.), Bootstrap, jQuery; 2)The Back-end: Proficient in Java, Django, MongoDB, Firebase, AWS, Redis, Node.JS.
- **Other Languages & Tools:** Linux, Git, SQL, MySQL, Matlab, Oracle, R, Python, HDL, Verilog/System Verilog, C, Assembly.