

Yijun Zhou

E-mail: yiz209@pitt.edu

Tel: 412-579-2194

PROFESSIONAL EXPERIENCE

Department of Biomedical Informatics in University of Pittsburgh

09/2022 - now

Software Engineer & Research Assistant

Pittsburgh, Pennsylvania

- Independently developed a data visualization application that incorporates statistical analyses and figure plotting using Python, Flask, MongoDB, and various AWS technologies such as Elastic Beanstalk, EC2, S3, CodePipeline, etc. Serving as a no-code online data analytics platform, which significantly facilitates the data analysis process for non-computer professionals.
- Contributed to the development of a model-assisted medical diagnosis application that integrates the use of a pre-trained DFNN model for prediction using JavaScript, HTML, CSS. Users can also perform online training/testing of the model.
- Called the GPT API and created a virtual assistant using the prompt method to facilitate user interaction. Simultaneously, constructed a question-and-answer cache library based on similarity calculations, resulting in a reducing the number of API calls to minimize costs.
- Responsible for deploying and maintaining all web applications within the lab on AWS. Primary duties include but are not limited to, using SSL to secure all web applications, utilizing Secret Manager and S3 for storing sensitive information, as well as monitoring and analyzing application performance with CloudWatch.

PetroChina Southwest Oil & Gas Field Company

09/2021-08/2022

Software Engineer

Sichuan, China

- developed a project management application leveraging Angular and TypeScript for the frontend and Java with Spring Boot for backend, facilitating project tracking.
- Implemented authentication and authorization mechanism using the Spring Security framework, ensuring differentiated user access levels. Integrated token-based user authentication with JWT and employed Spring Security's Role-Based Access Control (RBAC) to dynamically assign and manage roles, enabling an admin user to add/remove roles for all users and activate/inactivate users.
- Designed and implemented efficient task scheduling functionalities with Quartz Scheduler, and Spring Boot, enhancing project managers' ability to easily assign tasks to team members, improving workflow and productivity.
- Developed a Quartz-based task scheduler to send email notifications to team members, boosting project delivery efficiency. Utilized JavaMail Sender for the integration of email services and configured Quartz to trigger email notifications based on task deadlines and priorities.
- Assisted in cleaning, transforming, and importing a total of 5,044 records into the database, utilizing SQL for data querying and management. Improved data quality by cleaning and preprocessing 14,513 records, addressing issues with missing values, outliers, and duplicate data utilizing Python, along with libraries such as NumPy and Pandas.

Shangben Big Data Company

07/2020-08/2021

Software Engineer

Shanghai, China

- Contributed to an intelligent transportation project in Minhang District, Shanghai, China. Participated in improving a reinforced learning model to enhance our traffic light control system, reducing instances of unnecessary green light cycles, and minimizing waiting times of 0.52s for traffic flow.
- Assistant to the development of a platform for managing traffic data, utilizing Spring Boot as the server to handle data CRUD operations as well as user authorization and authentication.
- Responsible for constructing the front-end user interface with Angular, enabling administrators to view and analyze real-time traffic flow data, waiting times, etc.
- Integrated the JavaScript library ng2-charts into Angular to create dynamic charts for visualizing and comparing data across different time periods, including bar charts, line charts, radar charts, and more.

EDUCATION

University of Pittsburgh - Pittsburgh, PA, USA *09/2021 - 06/2023*
M.S. in Information Science, School of Computing and Information Overall GPA: 3.8/4.0

Dalian Maritime University - Dalian, China *09/2017 - 06/2021*
B.S. in Intelligence Science and Technology, School of Information Science Overall GPA: 3.4/4.0

ACADEMIC PROJECTS

ProductSelectionGem Platform (React.js, Node.js, Express.js, MongoDB) *10/2023 - 12/2023*

- Built and sustained the full-stack website, orchestrating the systematic management of customer data. Streamlined the product selection process for all users, thereby facilitating supplier profitability
- Reinforced security protocols by implementing user access controls through Firebase, employing email, password, and OAuth authentication with JWT. Additionally, integrated Google Analytics to monitor website traffic.
- Enabled CRUD operations, allowing users to create, update, and delete property listings.

TECHNICAL SKILLS

Programming Languages: Python, Java, C++, R, JavaScript, PHP
Frontend Technologies: Angular, HTML, CSS, JavaScript, React, Bootstrap
Backend Technologies: Spring Boot, Node.js, Flask, Express.js, Django, REST
Database: MongoDB, MySQL
Frameworks/Libraries: TensorFlow, Keras, PyTorch, Scikit-learn, Pandas, Numpy
Tools: PyCharm, Git, AWS, Linux, Docker