Xiaolei (Shirley) Zhao

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EDUCATION

Columbia University, The Fu Foundation School of Engineering and Applied Science   New York, NY
Master of Science in Computer Engineering | GPA: 3.86/4.00   *Aug 2023 – Dec 2024*
Courses: Cloud Computing, Computer Networks, Intelligent and Connected Systems

Southern University of Science and Technology, College of Engineering   Shenzhen, CN
Bachelor of Engineering in Computer Science and Technology | GPA: 87.34/100   *Aug 2019 – Jun 2023*
Honors: Merit Student Scholarship (2022), Outstanding Volunteer (2021), Merit Student Scholarship (2021)

PROFESSIONAL EXPERIENCE

Visual Analytics System for Open-Source Repositories   Shenzhen, CN
Software Engineer | Data Visualization and Analysis Lab, SUSTech   *Feb 2022 – Jun 2023*
- Utilized **Vue.js** for building a responsive interface and **D3.js** along with **Tableau** for advanced data visualizations
- Developed a **Flask** backend to process data, including tasks like sentence embedding and dimensionality reduction. Integrated **GraphQL** for real-time GitHub data fetching, with **MongoDB** for efficient data storage and management
- Implemented **Docker** for containerization and **Jenkins** for CI/CD, improving consistency and efficiency

Stock Price Prediction for Microsoft and Apple   Raleigh, NC
Data Analyst | 2022 Winter Data Science Program, North Carolina State University   *Jan 2022 – Feb 2022*
- Designed an **ETL pipeline** to clean, transform, and store time-series data using **Pandas**, **NumPy**, and **PostgreSQL**, enabling efficient data querying and preprocessing for model training
- Created a stock price prediction system with **Tableau** based on real-life data fetched by a **Python** crawler
- Proposed a linear regression based method with correlation matrix to find KPI, achieved 98% accuracy

ACADEMIC PROJECTS

Smart Sports Bottle   *Fall 2024*
- Developed a smart hydration monitoring system with sensors, GPS, and a piezo buzzer, using a MicroPython-controlled microcontroller for real-time processing and wireless communication
- Integrated a voice assistant and water reminders (app notification & buzzer alert) to enhance hydration management
- Built a **Flask** backend for data processing and API handling, storing hydration data in **MongoDB**, and deployed the system on **Google Cloud** for seamless access and scalability
- Designed an **Android** application for real-time tracking, user customization, and data visualization, with **ngrok** enabling remote API access
- Implemented **pytest** for automated testing of Flask API and MongoDB interactions

Second-hand Trading Market Platform   *Fall 2023*
- Developed a full-stack trading platform for campus transactions, serving a user base exceeding 2000 individuals
- Built the backend using **Spring Boot**, integrating **MyBatis** with **PostgreSQL** for efficient database management and optimized data access. Implemented **JUnit** for unit testing, ensuring robust backend functionality
- Leveraged **Swagger** for automatic interface documentation generation on 96% files
- Built a website using **React** and **JavaScript**, designing an interactive frontend interface based on a prototype
- Deployed the platform on **AWS**, leveraging services to ensure high availability and scalability

Ticket Purchase Platform Construction and Performance Tuning   *Spring 2023*
- Designed a platform to simulate train ticket booking with functionalities for monitoring ticket availability, implementing **REST APIs** for client-server communication
- Engineered a high-performance **MySQL** backend, handling 1 million RPS by integrating **Spring Boot** and **Redis** for optimized caching and database efficiency
- Developed a **Vue.js** frontend with a responsive UI, enabling real-time ticket updates and user interactions
- Utilized **Docker** for containerization, ensuring consistent deployment, and adopted **Git** for version control

TECHNICAL SKILLS

Programming Languages: Java, Python, SQL, JavaScript, HTML, CSS, C/C++, Verilog
Frameworks: React, Vue.js, Spring Boot, PostgreSQL, MongoDB, Flask, Swagger, JUnit, Scrapy
Tools: Git, Docker, AWS, Google Cloud, Linux, Tableau, Postman, Maven, Gradle, VMware