Ruoyun (Rebecca) Sun

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Education

M.S.	Computer Science	Northeastern University, Seattle	GPA: 4.0	09/2019 -- 12/2021(Expected)
B.S.	Pharmaceutics	China Pharmaceutical University, China	GPA: 3.8	09/2015 -- 07/2019

Skills

Languages: Python, Java, JavaScript, C/C++, HTML/CSS, MATLAB, R, SQL
Web Development: Express/Node.js, React, Spring Boot, RESTful API, Bootstrap, React Bootstrap, Webpack, jQuery
Others: MongoDB, MySQL, AWS, Heroku, JUnit, Gradle, Maven, npm, nvm, Git, Ubuntu, Valgrind, Processing, MVC

Work Experience

Teaching Assistant   Northeastern University   05/2020 -- 08/2020
- Instructed 60 graduate students in algorithms by helping them develop problem-solving skills and debug codes
- Communicated with instructors and other TAs to synchronize grading policy and design test cases

Data Analyst Intern   Zhixing Internet of Things Technology Co., Ltd., China   08/2018 -- 09/2018
- Improved work efficiency by 30% through leveraging Python statistical packages (Pandas/NumPy/SciPy/Matplotlib) and SQL to do data cleaning, data analysis and data visualization on data collected from >100 charging stations
- Used DBSCAN to design and optimize a machine learning model to distinguish different electric vehicle types based on >5000 charging curves; Increased model accuracy from 60% to 80%
- Worked cross-functionally with product and engineering to define key metrics and support decision making

Projects

Issue Tracker Application (JavaScript, React, GraphQL, Express, MongoDB)
- Led the design and implementation of a full-stack application in the proxy mode to help users create, edit, filter and delete issues
- Boosted work efficiency by 60% through implementing a powerful search feature and a priority rating feature
- Designed and implemented a set of GraphQL APIs with Node.js server and MongoDB database for the ease and efficiency of data query and mutation from frontend
- Improved load time by 30% through implementing Server-side Rendering for the initial page and applying **Babel** and **Webpack**
- Increased web security on authentication and authorization with JSON web token (**JWT**) method

User Management Microservices (Java, Spring Boot, RESTful, Spring Cloud, MySQL)
- Designed and implemented RESTful Microservices with Spring Boot and Spring Cloud with integration of MySQL to help companies add, edit and delete customer information; Dockerized microservices on **AWS EC2**
- Implemented user authentication and authorization with Spring Security and JWT
- Used Spring Cloud Bus and **RabbitMQ** to broadcast configuration changes with encryption supported by **JCE**
- Traced HTTP requests with **Spring Cloud Sleuth** and **Zipkin**; Improved efficiency by 20% by aggregating log files in one place with **ELK** stack (Logstash, Elasticsearch, Kibana)

Multiprocessing Movie Search Engine (C, Socket programming, Valgrind, Google Test, Emacs, Linux)
- Designed a file crawler, a file indexer and a file processor to process >5 million movies in about 50 different files, applied Google Test and exposed high-level abstracted APIs
- Optimized indexing strategies to reduce memory usage
- Improved response time by 10% through implementing a **multi-threaded** file parser
- Developed a query processor using socket programming with TCP/IP protocol suites that concurrently serves multiple clients and increases throughput

Task Management System (Java, JUnit)
- Designed a full-stack personalized task management application compatible with Windows and macOS using **MVC** framework allowing users to create and organize to-do lists
- Implemented a general command line parser and a flexible filter via Builder and Factory design patterns
- Covered 98% by unit tests implemented in JUnit
- Led a team of 3 developers, performed industry-level teamwork using Git, exchanged information via interfaces and scheduled meetings frequently for multi-level collaboration