

Mr. Ruixin (Steven) Feng

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EDUCATION

Bachelor of Science, Mathematics and Computer Science

May 2022

Rose-Hulman Institute of Technology, Terre Haute, IN

GPA: 3.51/4.00

Relevant Courses: Software Design, Android & Web Programming, Software Requirements Engineering, Data Structure, Data Mining & Machine Learning, Applied Linear Regression, Object-Oriented Programming, Database Systems, Computer Architecture, Theory of Computation, Numerical Analysis, Computer and Operating System, Quality Assurance Testing

SKILLS

- Proficient languages: Java, C, Kotlin, R, MATLAB, Maple, SQL, Python, JavaScript
- Knowledge: Spring Boot, AOP, Microservices, Software Design, Quality Assurance, Database, JDBC, ORM, Hibernate, JPA Repo, ASM, Restful API and SOAP, XML, RabbitMQ, Netflix Eureka, Feign Client, Maven
- Tools: Git, Android Studio, Django, Linux, Xilinx, Firebase, ARM, LaTeX, Scheme, Jupyter Notebook

WORK EXPERIENCE

BeaconFire Solution

06/2022-present

-- Software Engineer

- Worked with business partner to perform functional analysis for designing solutions and evaluating options that include but are not limited to new program development, configuration of existing system, business process redesign, new system evaluation...
- Built Microservice applications using Spring Boot, enabled service discovery with Netflix Eureka, implemented Feign as declarative REST client and set up Hytrix as latency and fault tolerance tool
- Created and maintained RESTful endpoints for the client services, monitored the applications with Spring Actuator endpoints, and applied quality assurance to evaluate projects

Rose-Hulman Institute of Technology

09/2019-09/2021

-- Department of Computer Science Teaching Assistant

- Held office hours to help answer students' questions about algorithms and data structures
- Checked homework, tested C/C#/Java/Python code and gave revisions
- Provided comprehensive feedback to students for their problems in Excel sheets twice a week

-- Department of Mathematics Grader

- Graded quizzes and homework for Vector Calculus, Calculus I-III, Differential Equations, D&C Algebra
- Submitted grading status report weekly to the Mathematics department

PROJECTS

HR Management Portal

09/2022-10/2022

-- An Microservice App for Human Resource Management

- Developed an online human resource management portal based on Microservice architecture
- Designed and used for MongoDB and MySQL to store all types of data
- Used Amazon Web Services (AWS) for faster deployment including RDS and S3 buckets
- Created and maintained endpoints to handle HTTP requests for different roles, using Spring Security to verify their accessibility in application by passing JWT
- Used RabbitMQ for messaging, and Spring AOP to handle exception and logging
- Used Mockito to apply dependency injection and unit testing for controller and service layers, and verified testing coverage with Jacoco

Online Quiz Project

07/2022-09/2022

-- Exam Taking Web Application

- Developed an online quiz organizing website based on Java and Spring Boot Framework with Spring MVC
- Designed and managed quiz content using MySQL and its workbench
- Created and maintained endpoints to handle all HTTP requests from users and admins, including CRUD functionalities with quiz
- Used Spring AOP to handle exception and logging

Exploding Kittens Card Game

03/2022-05/2022

-- *Software Design Course Project*

- Completed a whole development process for the card game “Exploding Kittens” by following test-driven development (TDD)
- Allowed multiple players to play on the same device without changing its original rule from the desk game
- Adapted Agile approach to facilitate the project development by meeting four times per week very quickly

ASM-Based Java Linter (Code Detector)

12/2021-03/2022

-- *Software Design Course Project*

- Contributed to three-layer design pattern of the java code detector based on ASM trees and made decisions on adapting a JSON file as the config to open/close functionalities for it
- Individually created the detectors for checking design principles (single responsibility principle), code style (unused field/method/class) and template method as a design pattern applied, and they give suggestions if codes can be improved
- Produced a printing wrapper for print stream to maintain flexibility of built-in tools in Java and ASM
- Wrote unit and integration tests to assure the quality of the detectors and printing wrapper listed above

Rose Ride Android App

12/2021-03/2022

-- *Android App Development Project ([View it here](#))*

- Thought up the idea of “Rose Ride” as an exclusive app for Rose-Hulman students that work as a campus “uber”
- Led the team of 2 to complete sprints on time, made significant contribution in coding and helped debugging
- Polished up the app UI and set up the Rose-fire authentication to verify users, allowing them to switch app mode
- Wrote the [technical tutorial](#) to reveal advanced features applied, such as fuzzy searches in the app

OMP-Based Data Training Method

09/2021-05/2022

-- *Senior Thesis (See [My GitHub](#))*

- Researched modern ways of machine learning and discovered problems with [OCR](#) classification
- Modeled up the linear system for the problem of recognizing handwritten number images and considered usability in real life – e.g., automated processing of scanned images in post offices
- Adapted Orthogonal [MP](#) algorithm from signal processing for finding sparse solutions for the linear system
- Mocked the dictionary training procedure and get it improved by 15.42% so far compared to using pure OMP

Sentiment Analysis Web App

12/2021-03/2022

-- *A Small Natural Language Processing Project ([View it here](#))*

- Planned and mocked the project to work on sentimental analysis of text or audio as a team of 2
- Established the framework of the web project based on Django and helped fixed it running on Mac environment
- Significantly worked on functionality of recording using the app and parsing it as text to analyze
- Provided various options of uploading audio files and directly putting in text besides recording

Food Finder Web App

09/2021-12/2021

-- *Web Programming Project ([View it here](#))*

- Mocked up screen layouts by working on Figma at planning stage and absorbed feedback
- Identified user stories and Firestore model objects with their class structures
- Accelerated the programming and hosted the website on Firebase
- Recorded a YouTube video to demonstrate how our website facilitates users finding restaurants

Energy Usage in the U.S. (2017)

12/2020-03/2021

-- *Data Mining Project ([View web here](#)) ([View source code here](#))*

- Developed regression models regarding total revenue for the electric power industry
- Explored potential relationships and factorized categorical variables to add to the models
- Implemented JSON to set up website as a better illustration of the project work
- Constructed decision trees for predicting energy purchase levels