Hong Yi Meng . Jarvis Consulting

Passionate and detail-oriented software engineering graduate with hands-on experience in Java, Spring Boot, and RESTful API development. Built scalable full-stack applications, including a library management system, showcasing strong problem-solving and software engineering skills. Proficient in agile/scrum, data management, and concurrent programming, with a keen interest in optimizing performance and scalability. A fast learner who thrives in dynamic environments, eager to contribute to innovative software solutions. Excited to apply my skills in a collaborative, forward-thinking team.

Skills

Proficient: Java, Springboot, RDBMS/SQL, Git, Agile/Scrum, Linux/Bash, Docker, MongoDB, REST API

Competent: Python, Django, JavaScript/TypeScript, React.js, C/C++, COBOL, ISPF/TSO, JCL, Databricks/PySpark, Selenium, Hadoop, Power BI, Tableau

Familiar: Jenkins, Angular, Android SDK, Redis, ActiveMQ, Swagger API, Hashicorp Vault

Jarvis Projects

Project source code: https://github.com/jarviscanada/jarvis_data_eng_HongyiMeng

Cluster Monitor [GitHub]: Authored bash scripts to collect system specification and real-time resource usage of Linux machines, using Grep, Awk, and Sed. Collected data are stored in a PostgreSQL Docker container instance.

RDBMS and SQL [GitHub]: Designed SQL statements to perform various operations and queries over a SQL database, including queries leveraging joins, aggregate functions, and window functions.

Core Java Apps [GitHub]:

- StockQuote App: Developed a Java console application to manage a portfolio of stocks. The application fetches the latest stock quotes using the AlphaVantage API and stores the data in a PostgreSQL database.
- JDBC App: Created a Java application that interacts with data stored in a RDBMS using JDBC and DAO/DTO.
- Grep App: Developed a Java program to efficiently search for patterns in large text files using regular expressions. Implemented file I/O operations, using buffered readers to ensure minimal memory usage. Applied best practices in exception handling and logging. Packaged the application using Maven and distributed it as a Docker image.

Springboot App [GitHub]: Not Started

COBOL Student Management System [GitHub]: Created a COBOL student management system. The program provides a menu giving the user options to display, add, query, modify and delete student records. Additionally the user can generate a report from student data. Student data is stored within an indexed VSAM file.

Python Data Analytics [GitHub]: Not Started

Hadoop [GitHub]: Performed ETL tasks and data analytics using Hadoop and HQL.

Spark [GitHub]: Completed various exercises and tutorials to learn Databricks and PySpark for big data processing and analytics.

Cloud/DevOps [GitHub]: Not Started

Highlighted Projects

KnowKnot: Designed and implemented a full-stack application that analyzes research papers from a database to identify similarities and connect researchers working on related topics. Gathered requirements from stakeholders, designed the system architecture and implemented the backend in Python, leveraging a pre-trained BERT model for topic classification. Integrated a RESTful API for seamless search functionality, allowing researchers to efficiently discover relevant work. Assisted in creating a graph to display author relationships visually in the Angular web app. Worked in an agile/scrum environment, actively participating in sprint planning, daily stand-ups, backlog refinement and retrospectives.

Library Management System: Designed and implemented a Library Management System using Java and Spring Boot, enabling efficient book cataloging, user management, and loan tracking. Developed a RESTful API for seamless interactions between the frontend and backend. Integrated a relational database to keep a record of the library's collections. Created a web-based view for catalog searching and user management, as well as an Android app for easy access.

Mini C Compiler: Developed a compiler for a subset of C, written in Java. Compiles C code into MIPS assembly. Parsed C code into tokens following specifications from a grammar, analyzing program structure to ensure program validity. Implemented efficient register allocation using inference graphs and graph coloring algorithms.

Colored Cube Sorting Robot: Designed and programmed a Lego Mindstorms robot capable of sorting colored cubes by their color. Implemented an algorithm to identify the most likely color, using data from various sensors, with a 98% accuracy.

Professional Experiences

Software Developer, Jarvis (2024-present): Implemented solutions for a variety of problems using Java, Maven, bash programming, SQL, Spark, using tools such as Docker and git. Created thorough unit tests with JUnit and Mockito to ensure program correctness.

R&D Software Developer Intern, Flexspring (2023): Contributed to a client-facing application for the management of various company subscription services. Implemented a new feature for users to archive no longer needed subscriptions. Assisted in the migration of user data from a MongoDB database to a PostgreSQL database. Created a proof of concept for subscription creation designed for scalability.

Education

McGill University (2020-2024), B. Eng. Software Engineering, Electrical and Computer Engineering

Vanier College (2018-2020), DEC in Computer Science and Mathematics, Computer Science

Miscellaneous

- Running
- Volunteer, Atwater Library and Computer Centre: computer centre volunteer