Karina Shrestha . Jarvis Consulting

I am a recent graduate with a Bachelor of Engineering specializing in Computer Engineering from Ryerson University. During my undergraduate career, I gained a solid understanding of algorithms and data structures. The courses and projects that I completed especially piqued my interest in data engineering and machine learning. It has also helped me to become adept at adapting to different technologies and programming languages, a strong problem-solver, and a big advocate for taking on new challenges. Currently as a Data Engineer at Jarvis, I have had the opportunity to develop various software projects to further my knowledge of database systems, the latest tools and technologies such as Java, Docker, REST APIs, and Git. I am passionate about working on projects that require me to explore areas outside of my comfort, as continuing to learn new languages and technologies are important to me.

Skills

Proficient: Java, Python, Linux/Bash, RDBMS/SQL, Agile/Scrum, Git

Competent: C, Machine Learning, Maven, Docker, Computer Networks, C++

Familiar: JavaScript, HTML/CSS, JUnit, REST API, Scala

Jarvis Projects

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

Cluster Monitor [GitHub]: Developed a Linux Cluster Monitoring Agent that manages a cluster of Linux nodes/hosts that run on CentOS7. The connection between the hosts are enabled through a network switch and communication is accomplished via internal IPv4 addresses. Using Docker containers, a PostgreSQL database instance was provisioned to persist hardware and resource usage data in real-time through bash scripts. A few SQL queries were created to analyze the data and answer business questions related to better managing the cluster planning for future recourses.

Core Java Apps [GitHub]:

- Twitter App: Designed a Twitter command-line application that allows users to post, show, or delete a tweet using the Twitter REST API. Utilizes OAuthConsumer, HttpClient, and Jackson libraries for user authentication/object serialization. Implemented the Spring framework to manage dependencies, JUnit/Mockito for testing, and Docker to deploy the app.
- JDBC App: Implemented an application that leverages JDBC to connect to a dockerized PostgreSQL database, allowing users to perform CRUD operations on the data. The functionality of the app is based on the DAO pattern.
- Grep App: Developed a Java application that simulates the functionality of the Linux/Unix grep command-line tool which allows users to search for matching strings within a file, given three arguments. Utilizes Lambda & Stream APIs to optimize performance and memory usage. The app was packaged by Maven and the dockerized image of the project was deployed to DockerHub.

Highlighted Projects

Throughput Predictor for a 4G LTE Network: Utilized Python (scikit-learn, numpy, pandas, matlplotlib) to perform data preprocessing and implement supervised machine learning techniques to predict downlink throughput based on various QoS metrics of a dataset and analyze performance based on the location of data collection.

P2P Application: Utilized C to develop a peer-to-peer network application based on TCP and UDP socket communication to allow multiple clients to display, upload, and download content.

Professional Experiences

Data Engineer, Jarvis (July 2021 - present): Collaborated with a small team of data engineers in an Agile/Scrum development environment. Led and participated in daily scrum meetings during two-week sprints. Developed software projects using various technologies including Docker, Maven, PostgreSQL, and Git to adapt to current industry trends

Coding Instructor, Alpha Coding (September 2019 - present): Lead programming classes and teach students of all ages in Python, Robotics, Java, Tinkercad, Minecraft, MIT App Inventor and Scratch. Continually create and develop the curriculum, lesson plans/materials. Work with students to develop their own individual learning path and track their progress

Education

Ryerson university (2016-2021), Bachelor of Engineering, Electrical and Computer Engineering

Miscellaneous

- Hiking and swimming
- Baking
- Art