Calvin Tan . Jarvis Consulting

With an Honours degree in Computer Science from York University, I bring a strong foundation in software development, with a growing emphasis on frontend technologies. My academic journey included diverse projects, such as creating a Java-based fullstack e-commerce application and leveraging machine learning on a Yelp dataset, which honed my skills in Python and Java. Beyond academics, I have delved into personal projects that expanded my understanding of software concepts, including frontend development with Angular and React. Some projects I have worked on include a real-time chatroom web app built using React for the frontend, and a combination of NodeJS and MongoDB for the backend. Another project is a stock portfolio manager built using Angular, which allows users to view and create/update/delete trader profiles. Currently, at Jarvis, I am applying technologies like Docker, Java, SQL, and React to a wide range of projects. This role has further strengthened my expertise in Scrum/Agile methodologies and collaborative development processes. My well-rounded skill set, with an increasing focus on frontend frameworks and user interface design, positions me to thrive in dynamic development environments.

Skills

Proficient: Java, Python, Angular, NodeJS, RDBMS/SQL, Agile/Scrum

Competent: React, Express.js, JavaScript, Typescript, PySpark, Docker, Socket.IO, Maven, Linux/Bash, Pandas, Jupyter Notebook

Familiar: SpringBoot, Scikit-learn, C#, Unity, Databricks

Jarvis Projects

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

Cluster Monitor [GitHub]: This project implements a few utilities designed to help the Jarvis Cluster Administration (LCA) team collect system specifications as well as resource usage from each node running on their Linux cluster. The LCA team would use this information for real-time resource monitoring as well as planning how to allocate these resources in the future. The specifications and usage statistics are collected using bash scripts and stored in a PostgreSQL database which runs in a Docker container. Usage statistics are gathered every minute and inserted into the database with timestamps.

Core Java Apps [GitHub]:

- JDBC App: Developed a Java app that mirrors the functionality provided by the grep command commonly found on Linux systems. Given a regex expression, the program recursively scans for files in a given directory and looks for matches in each file. By implementing the app using Streams, storing redundant data during intermediate operations is avoided resulting in highly optimized memory consumption. The app is also packaged with Maven and dockerized with Docker.
- Grep App: Designed and implemented a Java Stock Quote application that allows users to simulate stock trading with real-time stock information. The app runs and receives commands from the command line. Utilizes an OkHttp client to pull up-to-date stock quotes from the Alpha Vantage API. Allows users to buy and sell stocks based on these quotes and stores their holdings in a PostgreSQL database. Utilizes JDBC with a PostgreSQL Driver to handle reads and writes between the program and the database. Implements DAO and Repository design patterns to enable highly maintainable code.

Python Data Analytics [GitHub]: Analyzed an online retailer's sales to data generate reports on user growth, revenue, etc. Identified different segments to target by creating and assigning RFM (Recency, Frequency, Monetary) values to each customer. Looked for ways to boost company growth by analyzing the generated reports. Tools used include python, Jupyter notebook, PostgreSQL, Docker.

Angular Trading App [GitHub]: Developed a front-end web application using Angular. Allows user to view the trading profiles of multiple traders in a list. New users can be added and existing traders can have their information updated. Trader data and stock quote data are pulled from a mock server running on NodeJS using a HttpClient. The program is containerized using Docker.

Spark [GitHub]: Analyzed World Development Indicators and retail datasets using a Zeppelin notebook with Google Cloud Platform's Dataproc service and Azure Databricks respectively. Each solution utilizes PySpark to effectively and quickly process large volumes of distributed data. For the WDI dataset, information such as GDP for each country was found. For the retail dataset, important sales information such as total sales, sales growth, and new monthly users was analyzed to provide insights on how to grow the business.

Highlighted Projects

Chat Web App: Built a chat program written using the MERN stack. Uses MongoDB to store chat messages. Express and NodeJS and used for communication between the front-end chat program and the database on the back-end. Socket.IO used to handle realtime communications between users for the chat program

Windows Power Plan Tool: Designed and implemented a system tray tool to allow users to easily swap between different power plans on a Windows device. The tool executes batch files to access the PC's power plan controls. A GUI built using Windows Forms allows users to see the current power plan at a glance and change it through the system tray icon.

Professional Experiences

Software Developer, Jarvis (2020-present): Worked under the Scrum framework to deliver quality solutions in an efficient matter. Participated in sprint planning, stand-ups, retrospects to effectively communicate project progress and goals. Worked with technologies including Java, PostgreSQL, and Docker in a Linux environment to build backend software products. Utilized Maven to cleanly manage Java project dependencies and builds. Used Docker to run PostgreSQL databases in a container as well as dockerize completed Java projects.

PASS Leader, York University (2020): Organized and facilitated two 90 minute study sessions weekly to assist students with difficulties in PHYS1800 (Engineering Mechanics). Prior to each session, lectures would be attended to keep up with the specific material students were learning. Learning material would then be produced based on the lecture content to be tackled as a group during PASS sessions. Before midterms and finals, mock tests and exams were hosted to help students feel more prepared.

Education

York University (2019-2023), Bachelor of Science with Honours, Electrical Engineering and Computer Science - GPA: 3.7/4.0

Miscellaneous

- Have the Microsoft Azure AI Fundamentals certificate
- Running: Recently started getting into running around May 2024. Currently able to run 5k in about 32 minutes, aiming to run 10k in under an hour by the end of 2024
- Cooking: Capable of cooking a wide variety of tasty dishes including kimchi rice, lasagna, takoyaki, spaghetti carbonara and many more
- Video Games: A big fan of all genres of games with a preference for rpgs and coop games. Used to play League of Legends, Lost Ark. Currently playing Deep Rock Galactic, Divinity 2, Risk of Rain 2