Jasmeet Brar . Jarvis Consulting

I recently graduated from University of Toronto with an Honours Bachelor of Science (Computer Science Specialist and Math Minor), and I intend to venture into software development and data engineering. With my strong background in mathematics, it became natural that I am centered around problem-solving, and being able to construct elegant solutions that are extendable, scalable, and maintainable. In terms of academics, I have studied operating systems, algorithms, computability, web development, parallel programming, scalable computing, machine learning, deep learning, and much more. I have experience in projects involving compilers, web programming, scripting, and data visualization. As for work experience, I had worked as a software developer in helping a firm migrate its frontend services, and I currently work at Jarvis as a data engineer, where I work on projects that involve constructing some pipelines to deliver data in a format that would allow for further analysis. Altogether, they make up all the skills and experience that I want to carry forward towards new opportunities. New opportunities that will make use of my abilities and allow me to further learn new technologies. I am passionate about this journey that I'm on, and I can't wait to see what's up ahead.

Skills

Proficient: Java, Linux/Bash, RDBMS/SQL, Agile/Scrum, Git, Python, C, C++, HTML, JavaScript, TypeScript, React

Competent: CSS, PHP, Numpy, NodeJS, Docker, MongoDB

Familiar: VueJS, Styled Components, AWS ECS, DynamoDB, GitHub Actions

Jarvis Projects

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

Cluster Monitor [GitHub]: Implemented a monitoring agent that can track the hardware specifications and usage throughout time of host machines and store their data in a database. The monitoring agent is programmed using Bash, and Postgres is used as a database, which would run in a Docker container. Testing was all done on a CentOS 7 virtual machine running on the Google Cloud Platform. Every script was tested manually to ensure that they all adhere to their specifications.

Core Java Apps [GitHub]:

- Twitter App: Built an application that would use Twitter's REST APIs to provide services to the end-user, such as being able to add, show, or delete Tweets. Java was used to implement all the components, and Spring Boot was used to manage all of the dependencies. JUnit and Mockito were used to test the application, and Maven was used to package it. Deployment was done using Docker.
- JDBC App: Created an application that would access a database and perform queries using JDBC. Java and JDBC APIs were used to create the DAO necessary to perform operations with a Postgres database running on Docker, and to segregate these procedures from business side logic.
- Grep App: Constructed a replica of the grep command line utility. Used Java along with Lambda and Stream APIs as part of the implementation, and used Maven to package the application, which was later deployed on Docker Hub using Docker.

Springboot App [GitHub]: Made a trading application that allows users to manage accounts, quotes, and fetch stock information from IEX Cloud. All the components were implemented using Java, and Spring Boot was used to manage the dependencies, and have Apache Tomcat be used as a WebServlet. IEX Cloud APIs were used to retrieve the latest stock information, and PostgreSQL was used to create database schemas. Maven was used to manage the Java dependencies, and testing was done using JUnit 4. The project was then deployed on DockerHub as two docker images, where one image is the Postgres database that would set up all the relations, and the other image is the trading app itself.

Python Data Analytics [GitHub]: Analyzed a company's transaction data and generated reports about their monthly revenue, and their new and existing users. Created an RFM (Recency, Frequency, Monetary) report about their customer base to determine which customers they should expedite more of their energy towards. All analyses were conducted using a Jupyter notebook, and Python was used along with libraries such as Pandas, Matplotlib, NumPy, and SQLAlchemy. Docker was used to run the Postgres container, which is the company's data warehouse.

Hadoop [GitHub]: Set up a Hadoop cluster on the Google Cloud Platform to handle and analyze big data, and optimally execute queries. Used Apache Hive to execute HSQL queries, and Apache Zeppelin to store all the results in a notebook. Data was stored in an HDFS volume, and queries were further optimized by using partitioned tables and columnar.

Spark [GitHub]: Not Started

Cloud/DevOps [GitHub]: Not Started

Highlighted Projects

Toy Language Compiler [GitHub]: Worked in a team of four to develop a compiler that can compile a simple programming language into instructions that a VM can execute. The project was primarily done using Java and Apache Ant build system, while JFlex was used as a lexical analyzer, and Java CUP was used as a parser. Testing was automated using a Bash script that would run the compiler at various stages and check with our test cases.

AWS r/Place Project [GitHub]: Collaborated with my colleagues in a team to recreate an online canvas that would be deployed on AWS by implementing an architecture that is responsive and scalable. The server code was done using NodeJS, and Docker was used to containerize the application. AWS technologies such as ECS, Elasticache (Redis), and DynamoDB were used to ensure that it is scalable, data is replicated and is safe, and that the user experience is uncompromised.

C Compiler [GitHub]: Architectured and designed a compiler in an ongoing project that can compile a simplified version of C to Assembly or x86_64. The source files are written in C++ and it uses CMake as a build system. CI/CD is done using GitHub Actions, and it is also used to automate testing done with CTest.

Professional Experiences

Data Engineer, Jarvis (2021-present): Worked on various data projects involving Linux, Bash, Docker, Postgres, Java, and Spring Boot. Followed the scrum agile methodology and used Git and Git Flow in every project. Assisted others in project-related issues, and held daily scrum meetings as a scrum leader.

Data Engineer, Manulife (2021-2022): Took part of an advanced analytics team to assist various clients with their data-related needs. Created a data pipeline in Python and T-SQL to track data from an ETL and store it in an SCD. Improved their Python library's query execution by 4-5 times by tapping into backend APIs. Generated scripts using SQL server to assist with database migration. Used SSAS to query numbers for a financial report.

Software Developer, Finneo (2019): Coordinated with the CEO and the software team on determining the best course of action in enhancing their product to be extensible and maintainable. Migrated and ported features from their site designed with PHP using React, Styled Components, and Ant Design framework. Followed the scrum agile methodology and used JIRA as part of the workflow.

Education

University of Toronto (2015-2020), Honours Bachelor of Science, Computer Science Specialist and Minor in Mathematics - Erindale Admission Scholarship - Dean's List Scholar (2015, 2016, 2017, 2018, 2019) - MCS Delta Honours Roll (2015, 2016) - Graduated with High Distinction - GPA: 3.63/4.0

Miscellaneous

- MCSS Coding Competition First Place Winner