Hussain Fathi . Jarvis Consulting

I am a recent Electrical and Biomedical Engineering graduate from McMaster University. I'm currently working as a Software and Data Engineer at Jarvis Consulting, taking part in multiple projects such as the Linux Cluster Usage Administration, Java Grep and Java Twitter apps. In addition to Jarvis, I'm also currently working as a Software Engineer at a startup company based in Toronto. My role is centered around employing MEAN stack technologies to design, develop, and test an enterprise-level platform targeted towards helping international startup companies to enter the North American markets. Throughout my undergraduate career, I have completed 16 months worth of internship experiences in the fields of Machine Learning and Software development at the Department of National Defence in Ottawa and Adlib Software. During my internships, I had the chance to utilize various technologies such as python ML libraries, MATLAB and the .NET Framework. I'm really passionate about computer science because it introduces a way of thinking that can be used to address specific problems we're facing in our daily lives.

Skills

Proficient: Java, Node.js, Linux/Bash, RDBMS/SQL, Agile/Scrum, Git

Competent: Python, Keras, NumPy, Scikit-learn, Docker

Familiar: Google Cloud Platform, .NET framework, React, Express.js, Angular

Jarvis Projects

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

Cluster Monitor [GitHub]: Designed, developed, and tested a Linux cluster usage administration agent that allows the user to analyze the usage data of different Linux machines connected together through a network switch. A PSQL docker container was employed in this project to store the machine's usage and hardware data that are obtained by executing two different bash scripts. Crontab was used to automate the data acquisition and the database insertion process of the usage data. Finally, multiple SQL queries can be executed to analyze the data.

Core Java Apps [GitHub]:

- **Grep App**: Developed a Java application that searches through all the files in a given directory and outputs a text file containing all the lines matching a given regex pattern. The project employed Maven as the project management tool as well as Java Stream APIs for efficient memory usage. The app is available on DockerHub and can be deployed using Docker.
- **JDBC App**: Utilized the JDBC API to connect the Java program with a PostgreSQL database. Data Access Object (DAO) was used to perform CRUD operations on the data. The application was built using Java with IntelliJ IDEA as the IDE along with Maven as the project management tool
- **Twitter App**: In Progress!

Highlighted Projects

Athletic Tracking Assistant | Final Year Capstone Project: Designed and built a smart video capturing device that follows a target throughout a training session or a game in order to provide real time athletic performance analysis. In this project, a Simulink model was uploaded onto an Arduino microcontroller for real time ECG signal acquisition, processing and analysis. The project was awarded the best electronic hardware device by the Electrical and Computer Engineering (ECE) Department.

Professional Experiences

Data Engineer, Jarvis (2021-present): Collaborated in a Scrum team within an Agile work environment as a data engineer and lead various sprint meetings. Implemented multiple software related projects employing a wide range of technologies such as Java, SQL, Docker, Git, Linux and Bash.

Software Engineer, LatAm Startups (2021-present): Participated in internal and customer-driven design reviews to discuss the functionalities that need to be incorporated into the platform. Employed MEAN stack technologies to develop and test an enterprise platform from client to server to database.

Software Engineer Intern, Department of National Defence (2020): Worked in the Radar Electronic Warfare (REW) team within the Defense Research and Development Canada agency (DRDC) which is aimed to provide the

Canadian Armed Forces with modern radar detection technology. Employed advanced signal processing techniques using MATLAB and machine learning tools such as neural networks, random forest, and Support Vector Machines (SVM) to classify different categories of cognitive radars. The machine learning models were built using python libraries such as Tensorflow, Scikit-learn and OpenCV.

Software Developer Intern, Adlib Software (2019): Worked in an interdisciplinary Agile team environment and interacted with Business Analysts, Product Owners, and other stakeholders regularly to discuss new product requirements and specifications. Took part in back-end development and front-end web development utilizing the .NET framework to implement new functionalities to the enterprise software.

Education

McMaster University (2016-2021), Bachelor of Engineering, Electrical and Biomedical Engineering - Granted enrollment in the Biomedical Program due to highly competitive first year grades. - GPA: 3.3/4.0

Miscellaneous

- Best electronic hardware device awarded by the Electrical and Computer Engineering Department (ECE) at McMaster University for the final year capstone project.
- Volunteer, VP Media @ McMaster Planetary Society (2019-2020): Worked in a team of 7 other executive members to promote, plan and host space related events to McMaster University students.