

Zainab Manal . Jarvis Consulting

I am a passionate learner and a highly motivated software engineering graduate from Ontario Tech University. Over the course of my studies, I gained an expertise in agile methodology, project management, and a proficiency in programming languages such as Java, JavaScript, and Python. Alongside my academics, I completed several group projects as well as an internship which allowed me to refine my collaborative problem-solving skills and communication. I am drawn to the ever-changing nature of the technology field and thrive off the challenges intrinsic to software development. As such, I've worked on a diverse range of projects including AI implementations, mobile application development, and distributed systems and have worked with technology such as MongoDB, Firebase, and Windows Desktop application development. As a recent graduate, I bring in a new perspective and a commitment to continuous improvement and learning.

Skills

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

Competent: JavaScript, Python, HTML/CSS, NoSQL Databases (MongoDB, Firebase), C/C#

Familiar: AWS, Vue.js, Android Studio, Jest, Flutter

Jarvis Projects

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

Cluster Monitor [GitHub]: Implemented a Linux Cluster Monitoring Agent tool on a remote CentOS machine using technologies such as Docker, GitHub, PostgreSQL, and Crontab. The tool was used to collect and monitor real-time hardware specifications and CPU memory usage from the host machine and store the data within a Postgres database. The project is designed for users with clusters of machines in their projects, providing real-time insights into resource usage. Testing was done manually and each script was tested to ensure that it adhered to specifications and collected the required data.

Core Java Apps [GitHub]:

- **JDBC App:** Developed a basic stock application which retrieved data on selected stocks from the Alpha Vantage website and allowed users to buy or sell specified quantities of those stocks. The application used Core Java and JDBC (Java DataBase Connectivity) to implement a DAO (Data Access Object) layer. Data was stored in a PostgreSQL database and underwent testing with both JUnit and Mockito.
- **Grep App:** Implemented a grep command line replica using Java, Lambda, and Stream APIs. The application searches within a user provided directory, identifying lines in files that match a specified regex pattern. These lines are then written to a text file. The application was packaged using Maven and was then deployed on Docker Hub via Docker.

Springboot App [GitHub]: Developed a trading application using the Springboot framework. The application allowed users to stimulate buying and selling stocks, as well as manage accounts, quotes, and retrieve stock information from IEX Cloud. The application was implemented using Core Java and Springboot for dependency management. The IEX Cloud API was used to fetch latest stock information and PostgreSQL was used to define database schemas. Maven was used to managed Java dependencies and testing was done with JUnit 4.

Python Data Analytics [GitHub]: Analyzed the shopping behavior of a company's customers to help their team develop targeted marketing campaigns. Python and Jupyter notebook were utilized for the analyses, alongside the Pandas, Matplotlib, and NumPy libraries.

Highlighted Projects

In-Room Student Localization System: Conceptualized and developed a student identification system for university classrooms, utilising Bluetooth signals emitted from laptops. The scope of the project encompassed signal reception, identification, and the determination of student locations. The application received and identified unique Bluetooth signals and then determined the location of students associated with a specific signal.

MedSol - Medical Solutions: Designed and implemented a cloud-based healthcare service system used to facilitate booking and hosting online appointments with healthcare practitioners. Developed during the height of the COVID-19 pandemic, it aimed to streamline doctor's appointments, ensuring that they were easily accessible while minimising human

contact. The system integrated a WebRTC API for real-time audio and video communication. The frontend was built using JavaScript, HTML, and CSS, and the platform was hosted on the Google Cloud Platform.

Professional Experiences

Software Developer, Jarvis (2020-present): Developed code and conducted extensive testing and debugging. Employed agile methodologies and Git-flow to create Java applications running within Docker containers. Managed data projects using Linux, Bash, Docker, and Postgres, overseeing project tickets through Gitflow to ensure code quality and project specifications.

Student Software Developer, BESTECH (2021): Contributed to the development and testing of a web application designed to track a smart storage cube within a mine. Employed Flutter and Dart for mobile app development, alongside Vue.js for the web application's frontend, ensuring an intuitive and seamless user experience. Leveraged the Jest framework to conduct thorough unit tests to ensure issue resolution. Identified, tracked, and assisted in the resolution of program defects by performing additional tests. Monitored bug resolution, tested fixes, and provided quality assurance insights to assist developers in addressing ongoing challenges.

Education

Ontario Tech University (2017-2022), Bachelor of Engineering (Honors), Engineering and Applied Science - Ontario Tech Entrance Scholarship - Dean's List (2021)

Miscellaneous

- I enjoy reading and though I lean more towards the fantasy genre, I also really enjoy contemporary and historical fiction.
- I developed a passion for cooking during the pandemic and over the past few years, I've made dozens of dishes from multiple cultures and cuisines. I love experimenting with different flavours and styles of cooking.
- I've been writing short stories since elementary school. I enjoy the creative process and particularly exploring different writing styles and techniques to continually challenge myself.