Mitchell Acton . Jarvis Consulting

Graduated with an Master of Engineering degree in Mechanical and Materials Engineering from the University of Western Ontario, and a Bachelor of Applied Science degree in Nanotechnology Engineering from the University of Waterloo. I gained exposure and experience in data analytics and software development during school, during internships, through online courses, and through work experience after graduating. Eventually this became my main focus at work, so I decided to formally make the switch to a full time software development role with Jarvis. Since starting with Jarvis, I have become comfortable working in an Agile/Scrum development cycle, have gained valuable experience with Linux, PostgreSQL database management, and Java. I'm looking forward to getting the opportunity to put these tools to use along with my existing data analysis and machine learning skills to make high quality software products with significant business impacts.

Skills

Proficient: Java, Python, JavaScript, RDBMS/SQL, Agile/Scrum, Git

Competent: Linux/Bash, HTML, Docker, Machine Learning, Computer Hardware/Assembly

Familiar: C++, Neural Networks, Networking, Cloud Computing (MS Azure/IBM Watson), Computer Vision

Jarvis Projects

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

Linux Cluster Monitor [GitHub]: Developed a Linux cluster hardware resource management tool intended to be used by Linux system administrators. Includes bash and SQL scripts to automatically set up the docker PostgreSQL container and database, initialize tables, and scripts to populate the tables with host hardware specification and resource usage data.

Core Java Apps [GitHub]:

- Twitter App: Under Development
- JDBC App: Under Development
- Grep App: Under Development

Springboot App [GitHub]: Not Started

Python Data Analytics [GitHub]: Not Started

Hadoop [GitHub]: Not Started

Spark [GitHub]: Not Started

Cloud/DevOps [GitHub]: Not Started

Highlighted Projects

Algorithm and Simulation Visualizer Website [GitHub]: Created an interactive website to host various sorting and pathfinding algorithm visualizers, as well as some creative simulations written in JavaScript.

City Neighbourhood Clustering Algorithm: Built an unsupervised machine learning tool in Python to cluster areas (postal/zip codes) in a given city based on the area's facilities (restaurants, green space, schools, etc.). The algorithm resulted in 5 general clusters of postal codes (suburban, urban, industrial, downtown, airport). Analyzing the data revealed the most popular facilities in these clusters (eg. Suburban areas were high in schools, green space, and yoga studios). The tool's intended use was to pinpoint the best area for a potential business owner to open their business (Suburban area with no yoga studios would have a demand for a new yoga studio).

Oil Refinery Energy Cost Prediction Model: Developed a large tool in MS Excel for compiling and analyzing process data for a large oil upgrader/refinery facility. Used various regression models on historic data to predict future energy costs. The tool was used to plan the annual energy budget for one of the largest oil and gas facilities in Canada.

Professional Experiences

Software Developer, Jarvis (Sept. 2021 - present): Responsible for developing various data engineering and analytics tools using an Agile/Scrum methodology. Gained first-hand experience with Linux/bash, Docker, PostgreSQL, Java, and GitFlow.

Product Development Engineer, Pharmasees Inc. (Apr 2021 - Sept 2021): Designed the hardware and software for a medical device used to image and count white blood cells non-invasively. The hardware aspect involved optical system design and simulation, and 3D modeling of components. The software aspect involved developing a machine learning computer vision algorithm to detect and count white blood cells in videos of blood vessels in real time.

Process Engineer Intern, Shell (Jan 2018 - Aug 2018): Performed data analysis on process data from a large oil refinery. Supported projects team in quantifying results from energy saving projects, and built a tool to predict annual energy cost for the following year's budget.

Education

University of Waterloo (2014-2019), Bachelor of Applied Sciences, Nanotechnology Engineering - Graduated with Distinction - Winner of First Year Design Competition - Norman Esch Entrepreneurial Competition Finalist

University of Western Ontario (2019-2020), Master of Engineering, Mechanical and Materials Engineering

Miscellaneous

- Coursera IBM Data Science Professional Certificate (2021)
- Cooking
- Reading
- Guitar
- 3D Art
- Running
- SCUBA Diving
- Gaming