Homa Almasieh . Jarvis Consulting

I recently completed Data Analytics BootCamp from the University of Toronto focused on gaining technical programming skills in Excel, VBA, Python, R, JavaScript, SQL Databases, Tableau, Big Data, and Machine Learning. I worked with various datasets during the BootCamp program and according to the content of the projects, I used various tools to analyze the data, design the model and visualize the finding through Tableau and dashboards. In addition, I am a former Assistant Professor of University in the area of Applied Mathematics with a brilliant and valuable background in the field of teaching and scientific research. With this extensive background of Mathematics and Data, I started my training program at Jarvis by developing various projects and this mentorship helped me to gain skills in increasing code efficiency, debugging, and gaining comprehensive knowledge in Linux/Bash, Git, Java, Docker, RDBMS and Springboot. I am a self-initiated and avid learner with high attention to detail, critical thinking and logical problem-solving. My adaptability allows me to work in many different environments, in addition to speaking with people from various backgrounds. I am looking forward to speaking about my academic and professional background for developing positions mainly in the data analytics field.

Skills

Proficient: Java, Linux/Bash, Machine Learning and Data Analytics, Statistics, RDBMS/SQL, Tableau, Agile/Scrum, Git

Competent: Pandas, Numpy, Scipy, Scikit-Learn, DHTML/CSS

Familiar: R, APIs, Tensorflow/Deep learning, Flask, Google Cloud Platform(GCP)

Jarvis Projects

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

Cluster Monitor [GitHub]: Implemented a Monitoring Agent on a node/server that collects the hardware specifications and monitors the cluster node resource usage in real-time within the Linux cluster running on CentOS 7. The collected data include the host's CPU number, total memory, memory free, disk I/O, etc which are stored in a RDBMS database. This Monitoring Agent contains a PostgreSQL server installed within a Docker container that collects information every minute using bash scripts and crontab installed on each node.

Core Java Apps [GitHub]:

- Twitter CRUD 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 Springboot was used to managing 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.

Python Data Analytics [GitHub]: Performed data analysis for transaction data reported from LGS to help the marketing team to answer the business questions in order to increase the company's revenue using RFM report. The analyses were conducted using a Jupyter notebook, and Python was used along with libraries such as pandas, matplotlib, numPy, scipy, seaborn and SQLAlchemy. Docker was used to run the Postgres container, which is the company's data warehouse.

Highlighted Projects

Spotify Analysis [GitHub]: Collaborated in a team of five to determine what features impact the Popularity index of any given song on Spotify using Python. Analyzed various physical features of a song as well as some peripheral features to identify a pattern within how a song garners a successful Popularity index. Created a machine learning model that can predict the popularity of a song based on these features and utilized Tableau to visualize the outcomes and discuss the findings. **Key Tech**: Web Scaping, Pandas, SKLearn, Tableau

Credit Risk Analysis [GitHub]: Used the credit card dataset from LendingClub, a peer-to-peer lending services company. Oversampled the data using the RandomOverSampler and SMOTE algorithms, and undersampled the data using the

ClusterCentroids algorithm. Used a combinatorial approach of over and undersampling using the SMOTEENN algorithm. Compared two new machine learning models BalancedRandomForestClassifier and EasyEnsembleClassifier that reduce bias. Lastly, evaluated the performance of these models to be used to predict credit risk. **Key Tech**: Jupyter Notebook and Scikit-Learn

Amazon_Vine_Analysis [GitHub]: Created an AWS RDS database with tables in pgAdmin. Picked a dataset from the Amazon Review datasets and extracted it. Determined bias of vine reviews. **Key Tech**: PySpark, SQL, Cloud Service (AWS)

Professional Experiences

Data Engineer, Jarvis (2021-present): - Implemented various data projects using tools and technologies such as Linux/Bash, RDBMS/SQL, Java, and Docker - Collaborated in the develop team and followed the Scrum Agile methodology by hosting daily meetings - used Git and GitFlow in every project

College Instructor, Vaughan College (2017-2021): - Planned and presented math lessons to facilitate students understanding in the college. - Prepared and distributed learning materials such as notes, assignments, tests, and final examinations - Ensured that the classroom remains safe and conducive to learning - Graded assessments in a timely manner - Documented and reported on students' progress - Attended meetings with parents and staff

Research Associate, Ryerson University (2015-2017): - Post-Doctoral Fellowship (PDF) at Electrical & Computer Department of Ryerson University - Designed a simulation of energy-efficient equipment and optimization of single house load management and energy generation - Worked on the Gray Predictive Models for using in HVAC residential

Assistant Professor, Isfahan University (2003-2015): - Faculty member of Isfahan University for more than 13 years - Developed curricula and delivered course materials - Researched with over 20 published papers with more than 528 citations - Supervised and advised on dissertation in undergraduate and graduate students - Specialized in analyzing and synthesizing applied problems and algorithms - Journal Reviewer of International Journals in Mathematics, Engineering, Economic and Science - Expertised in all areas of Applied Mathematics including but not limited to Numerical Analysis, ODEs, PDEs, Finance Mathematical Modeling, Stochastic Calculus, Operational Research, Integral Equations, Linear Algebra, Numerical Integration, and Numerical Derivatives

Education

Azad University (2005-2010), Doctor of Philosophy of Applied Mathematics (Integral Equations), Mathematics

Yazd University (2001-2003), Master of Applied Mathematics (Optimal Control), Mathematics

Isfahan University (1997-2001), Bachelor of Applied Mathematics, Mathematics

Miscellaneous

- Data Analytics- University of Toronto (2021)
- A list of my publications can be accessed through this link
- Strong research scientist with over 20 published articles with more than 528 citations, click here