Melissa McMillan

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I am a self-motivated Data Scientist, Project Manager, and Leader who uses curiosity, emotional intelligence, innovation, and efficiency to solve problems. My experience as a project manager allows me to deliver value through efficient processes, enthusiastic stakeholder engagement, and resourceful expertise. I love applying the scientific process to solve real-world problems, and have a positive impact on both the team and organization while I'm at it. One can gather from my varied experiences that I'm not afraid to try new things; I've become skilled at adapting, learning, and improving along the way.

Technical Skills

Skills: End-to-End Data Science Process: Data Wrangling/Cleaning, Data Exploration, Modeling, Data Analysis, Data Visualization, Data Communication

Python Libraries: Pandas, NumPy, SciPy, Matplotlib, Seaborn, Scikit-learn, Natural Language Toolkit, Beautiful Soup, Keras, Tensorflow

Machine Learning Models: Linear Regression, Multiple Linear Regression, Principal Component Analysis, Support Vector Machine Regressor, Decision Trees, Adaboost, Random Forest, Extra Trees, K-Nearest Neighbor, K- Means, Convolutional Neural Networks (CNN), Recurrent Neural Networks GBM, XGBoost, ARIMA/SARIMA, Naive Bayes

Languages / Software: Python, R, SQL, PowerBI, Microsoft Office Suite, Zendesk

Professional Experience

Director, Customer Success & Process Integration — July 2021 - October 2022
cQuant.io, Energy Analytics B2B SaaS Platform — Denver, CO

- Led a team of Energy Analysts who provided front-line client software support and executed on new contract implementation projects
- Developed a company-first custom PowerBI dashboard for full-scale risk analysis of a client's portfolio
- Designed and implemented a Customer Support Analytics process for targeting software improvements
- Used R to debug and improve model code, wrangle client data, understand model results, etc
- Executed multiple client implementation projects to assist customers in learning the platform
- Trained clients on statistical models, such as spot price simulation models, battery and power plant dispatch optimization models, and summary aggregation models
- Established an end-to-end ticketing process through utilization of Zendesk, allowing for customer analytics
- Hired and mentored junior staff in a small startup environment with limited training or onboarding support
- Optimized implementation process for new clients through utilization of project management techniques, reducing project timeline and increasing client satisfaction

Data Science Immersive Student — December 2020 - March 2021
General Assembly — Denver, CO

- Retooled myself to transition to the field of Data Science and to the Tech Industry
- Followed machine learning curriculum and built supervised and unsupervised machine learning models
- Worked on a team of four other data scientists on a project to diagnose COVID-19 lung infection in x-rays
- Was challenged to create five projects using various machine learning models in a time-limited manner

Eagle Ford Shale Play Asset Geophysicist — March 2019 - October 2020
BP/BPX Energy — Denver, CO

- Technical Contributor responsible for providing data-driven insight to reduce well deliverability risk for a 4-6 rig drilling program
- Assisted Asset VP in Process Improvement efforts for Eagle Ford BU to optimize team efficiency and Capital Planning Process, reducing software touch points and man-hours
- Advised multi-disciplinary team of geologists and engineers on the benefits and appropriate uses of 2D/3D seismic datasets for optimizing hydrocarbon production
- Delivered a data reprocessing and interpretation project worth ~$100k that improved hydrocarbon valuation in an undeveloped play
- Facilitated completion and organization of newly acquired 3D seismic data worth ~$15million+

Project Coordinator — February 2017 - March 2019
ESG/Spectraseis — Denver, CO

- Project Coordinator/Manager responsible for delivering 30+ awarded Passive/Induced Seismicity projects, ranging from $10k-100k in value, following the company's Project Management Processes
- Responsible for project planning and execution, coordinating operational logistics, meeting technical and contractual obligations, process integration and improvement, and client communication
- Integrated newly acquired business and service offering, Spectraseis, into parent company's (ESG) process
- Developed and adapted ESG's Project Management Process to fit Spectraseis' Seismicity service offering, increasing efficiency and profitability during BU integration

Geophysicist/ Geoscientist — August 2012 - March 2016
BP America, Inc — Houston, TX

- Geoscientist/Geophysicist for the Deepwater Gulf of Mexico, Wyoming, Anadarko, and Arkoma BU's responsible for mapping the subsurface on both 2D/3D seismic data to assist teams in optimizing hydrocarbon production
- Led the successful acquisition and delivery of a new 3D seismic dataset worth ~$20million to the Anadarko BU
- Led the Deepwater Gulf of Mexico team to drill a $130million exploration well with operational partner Exxon
- Delivered Technical Seismic Fitness and Futures Report with recommendations for past and future dataset potential for the Wyoming asset that provided foundation for identification of additional plays in the mature/legacy asset
- Led a team to conduct technical analysis and provide recommendation to management against participation in a competitor's $200 million exploration well, successfully avoiding a (very expensive) dry hole
- Recommended for the Leadership Development Program in 2013; completed the Courageous Conversations and Effective Planning Courses as part of this program

Project Management and Leadership

Project Management Professional (PMP) Certification: License #1956892 — October 2016 - Present
Lean Six Sigma Yellow Belt Certification — December 2018 - Present
EnergyTechHub Board Member — November 2019 - Present

Data Science Projects

Forecasting Induced Seismicity in the Eagle Ford Shale Play

- Utilized the USGS and TexNet Seismicity Catalogs to understand earthquake occurrence and driving mechanisms
- Used RNN, ARIMA, and SARIMA models to forecast seismicity occurrence
- Found preliminary correlation between hydraulic fracture injection volume per foot lateral to induced seismicity

Trained Convolutional Neural Network (CNN) to Diagnose Presentation of COVID-19 and Viral Pneumonia in X-Rays

- Collaborated with three other data scientists to develop highly predictive model
- Utilized Kaggle Dataset of X-Ray images to train Keras CNN model
- CNN Model test accuracy: 95%, Recall score of 95%
- Created an end-user interface to interact with the trained model using Flask

Natural Language Processing Binary Classification for Game of Thrones vs Lord of the Rings Subreddits

- Used PushShift API to scrape r/GoT, r/LOTR subreddit posts
- Used Naïve Bayes and Random Forest models to create a Natural Language Processing Model
- RandomForest was the best model achieving 93% accuracy, 91% sensitivity using TF-IDF Vectorizer
- Visualized model statistics comparing TF-IDF vectorizer against CountVectorizor

Scotch Whisky Recommender App Using K Means Clustering

- Used Kaggle dataset of scotch whisky distilleries to compare flavor profiles and explore grouping options
- Utilized K Means Clustering and the elbow method of inertia/silhouette score comparison to determine optimum number of clusters for grouping distilleries
- Compared/QC'd clusters using Radar/Spider plots for visual comparison of flavor profiles
- Created App hosted on Streamlit to provide scotch/distillery recommendation based on user preference of either flavor profile or known distillery.

Education

Data Science Immersive Advanced Certificate | General Assembly — Grad year: 2021
Master of Science in Geoscience | The University of Arizona — Grad year: 2012
Bachelor of Science in Geoscience, Minor in Mathematics | The University of Arizona — Grad year: 2010