Rami Abou-Shamalah

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Experience

Data Scientist
June 2023 - Present

Sander Geophysics

Hybrid in Ottawa, Ontario

- Implemented a 1D CNN+LSTM model in Pytorch using VS Code and Jupyter Lab, to automate the correction of cultural artifacts in ground magnetic data, effectively reducing processing time by 80%. and increasing accuracy by 40%.
- Engineered Python scripts utilizing Numpy and Pandas for statistical comparative analysis of flight data quality, resulting in annual savings of over $10,000 through optimized decision-making
- Designed and implemented end-to-end data pipelines, including automated data extraction from proprietary databases, preprocessing, and preparation for ML model training
- Utilized version control (Git) to manage and deploy code to the main processing stream
- Contributed to the efficiency of current data processing programs by reducing unnecessary algorithm complexity and/or using optimized optimization techniques, such as memoization and parallelization

Jr. Data Scientist
December 2021 - June 2023

Healthcare Systems R & A

Remote, Canada

- Led a team of 5 geoscientists in the data collection, cleaning, and preprocessing and storage of millions of tabular and qualitative data, for a machine learning model that ultimately produced strong accurate predictive results, which culminated in anomalous gold mineralization findings.
- Developed a Python script to reverse engineer processed magnetic maps back into raw data to be used for machine learning purposes which significantly improved model results.
- Integrated machine learning predictions with domain expertise to optimize exploration planning
- Created data visualizations and geospatial materials to effectively communicate complex analytical results to stakeholders and potential investors.

Education

University of Western Ontario
September 2015 - June 2020

4-year BSc, Computer Science and Applied Mathematics

- **CGPA**: 3.85 / 4.0

Skills

- **Programming Languages**: Python (Pandas, Numpy, Matplotlib), SQL, Batch Scripting, HTML, CSS, JS, C
- **Software**: Jupyter Lab, pgAdmin, GitLab, Microsoft Excel, Power BI,
- **Data Analysis**: Time Series, Geospatial, Statistical Analysis,
- **Machine Learning:** Logistic Regression, GRU, LSTM, XGBoost, Random Forest, CNN, Hyperparameter Tuning