Rudger H. Dame

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EXPERIENCE

New Reach Education Aug 2022 – Present
Lead Data Scientist *Tempe, AZ*

- Built a logistic regression model to score paid marketing leads and predict the probability to convert. Worked with the sales team to optimize a leads path to conversion base on the lead score.
- Led the company in migrating companywide data from google sheets to a Snowflake data warehouse. Oversaw the data management, analysis, and reporting of sales data with Tableau dashboards.

Baylor University Aug 2019 – May 2022
Research Scientist/Teaching Assistant *Waco, TX*

- Identified and designed experiments to further our understanding of the interior of Venus. Led the analysis of geospatial and remote sensing data to develop a narrative for the geological history of Venus and identify future research challenges and opportunities. Built advanced analytical tools and machine learning models in Python to produce geological and statistical insights from planetary datasets.
- Taught two undergraduate geology and environmental science classes per semester for two years. Demonstrated the ability to articulate and explain complex geological and environmental processes to undergraduate students. Instructed students in the use of MATLAB.

Jet Propulsion Laboratory/CALTECH Summer 2020 and 2021
JPL NASA Summer Research Intern *Pasadena, CA*

- Leveraged multiple large geological data sets for both Earth and Venus to generate metrics from Earth subduction zones and classify potential subduction zones on Venus.
- Designed scripts in MATLAB to create synthetic gravity models of subducted plates and used Fourier analysis to reduce the modeled gravity resolution to that of the observed gravity data. Performed particle swarm optimization to fit the modeled data to the observed gravity data, leading to groundbreaking results in favor of subduction on Venus.
- Translated research findings into written reports and communicated findings to the scientific community at the American Geophysical Union 2020 Conference and JPL 2021 Summer Research Conference.

Brigham Young University Nov 2017 - Apr 2019
Geology Research Assistant *Provo, UT*

- Performed statistical analysis on 3D modeled Ethiopian terrain and Radar images to quantify the roughness of the terrain and further our understanding of the formation of smooth terrains on planets like Mars and Titan.
- Presented findings to the planetary science community at the European Planetary Science Congress 2018 in Berlin.

EDUCATION

Baylor University, *Master of Science in Geophysics*

- Thesis: Gravitational Indications of Subduction on Venus

Brigham Young University, *Bachelor of Science in Applied Physics*

LANGUAGES & TOOLS

Python Packages:

- NumPy, SciPy, Pandas, Matplotlib, Seaborn, Scikit-learn, GeoPandas, and Jupyter Notebooks

Other Languages, Softwares, and Frameworks:

- Microsoft Office, Linux, MATLAB, SQL, Tableau, Snowflake, ArcGIS, GitHub, AWS, and Microsoft Azure

MACHINE LEARNING PROJECTS

- **Fallen Meteorite Classification:** Used the Meteoritical Society's collected data on fallen meteorites to study meteorite collection bias. Trained a Random Forest Classifier model to predict what class of meteors are found in different geographic locations using features like local topography, population, and precipitation.
- **Credit Card Fraud Detection:** Historical credit card transaction data, with 0.5% being fraudulent, was used to build a fraud detecting logistic model that scored a 0.99 ROC AUC.
- **Viral Tweet Predictor:** Using scraped CNN, FOX, and BBC tweets and Natural Language Processing to build a predictive model that predicts how many likes a tweet will get.