Cale Williams

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Experience

Data Analysis Intern | National Renewable Energy Laboratory | 10/2022 – 08/2023 | Golden, CO

- Built pipeline to ingest and process complex data sets and deployed into online RShiny interactive dashboards for users to view outputs of models simulating regional transportation behaviors
- Collaborated with stakeholders to determine data visualizations and reports that would best translate raw data into meaningful information
- Organized and transformed data sets to efficiently identify trends, detect anomalies, and maintain integrity

Stress Engineer | Sierra Nevada Corporation | 07/2018 – 12/2020 | Louisville, CO

Stress Engineer | The Spaceship Company | 07/2016 - 07/2018 | Mojave, CA

- Performed structural analysis of spacecraft and aircraft components and documented analysis within technical reports
- Built analysis tools saving engineering resources and standardizing methods and outputs
- Coordinated with program management, manufacturing, and design engineering teams to ensure analysis and repairs were completed expeditiously to meet flight test schedules

Education

M.S. Analytics | May 2024 | Georgia Institute of Technology

- **Relevant coursework topics:** Machine learning methods; Linear & logistic regression; Random forests; k-means clustering, k-nearest neighbor, support vector machine, & Naïve Bayes classification; Principal component analysis; Stepwise regression, LASSO, & elastic net feature selection methods; Linear/integer/convex optimization

B.S. Aerospace Engineering | May 2016 | University of Texas at Austin

Projects

CPS Electricity Demand Prediction: Built linear regression and time series models to predict electricity grid demand

MLB Pitcher Roster Optimization: Cleaned datasets and built machine learning and optimization models to quantify baseball pitcher arsenals and construct optimal roster subject to skill and financial constraints

NBA Tracking Data Classification: Processed large dataset and built unsupervised classification model to improve temporal labels

Route Generation: Using tree search and network science methods, built a minimization model to generate routes traversing all graph edges

NBA Field Goal Dashboard: Scraped & cleaned datasets and integrated into dashboard with plots and visuals

Tools & Software

- **R:** tidyverse, Shiny, Plotly, R Markdown, **Python:** pandas, NumPy, Matplotlib, scikit-learn, SciPy, PyMC, CVXPY, NetworkX, **SQL**, **Microsoft Office**