Calvin Raab

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WORK EXPERIENCE

Booz Allen Hamilton   San Diego, CA
Staff Data Scientist   April 2024 – Present
- Develop machine learning solutions for Navy fleet readiness with SMWDC by creating data pipelines and predictive models that drive dashboards, forecasts, and other insights for 1- to 3-star generals.
- Built a machine learning–powered interactive application for leadership to predict relocation costs by integrating an ETL pipeline processing diverse finance data.
- Serve as the team's model interpretability SME: advise on explainable AI projects (including LLM integration) and publish technical papers on neural networks and transformers.

San Diego Association of Governments   San Diego, CA
Associate Data Scientist   September 2021 – April 2024
- Developed and refined regional forecasting models (Estimates, Forecast, Sub-Regional Allocation), ensuring accuracy through interpretability analysis and stakeholder alignment.
- Rebuilt SANDAG's Unemployment Dashboard with a fully automated BLS data pipeline; deployed publicly and adopted agency-wide.
- Built QA tools with GUIs to validate transportation and forecast model outputs using statistical tests and multi-source verification.

PROJECTS

Interpretability Research   March 2025
- Authored "Quantifying Explainability" paper on neural network interpretability; accepted to CAI IEEE (May 2025).
- Presented Large Language Model (LLM) interpretability research at NAML Conference (Feb 2025); explored saliency maps, activation patching, and multi-head attention visualization.
- Consulted for Space Force, developing interpretability-focused deployment plans for satellite-based LLMs.

Pluto TV Key Performance Indicator Tool   December 2024
- Built a scalable Streamlit dashboard for PlutoTV's marketing team to analyze past campaign performance and predict future campaign outcomes.
- Engineered a robust ETL pipeline and SQLite database, transforming 8.6M+ records into scalable, ML-ready datasets.
- Developed predictive models (Random Forest, K-Means, Nearest Neighbors) to identify campaign trends and inform strategic marketing decisions.

EDUCATION

University of Michigan   Ann Arbor, MI
Masters Applied Data Science   December 2024

University of California   Los Angeles, CA
Bachelors Economics   June 2021

ADDITIONAL

Clearance: Secret Security Clearance
Languages: Python, R, SQL (Microsoft SQL Server, PostgreSQL), Shell/Bash, HTML/CSS
Data Science Tools: Databricks, AWS, Microsoft Azure, Qlik, Power BI, Git, ArcGIS Pro, Excel
Libraries/Frameworks: Pandas, NumPy, Hugging Face, PyTorch, PySpark, PopulationSim, Scikit-learn, Flask
Subject Matter Knowledge: Model Interpretability, Explainable AI, Deep Learning, Large Language Models, Statistics, Calculus, Quantitative Finance, Economics, Demography, Population Forecasting, Transportation Modeling, Artificial Intelligence, U.S. Navy Domain Knowledge