

# Calvin Raab

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## WORK EXPERIENCE

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### Booz Allen Hamilton

Staff Data Scientist

San Diego, CA

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

Associate Data Scientist

San Diego, CA

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

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### 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 attention visualization, probing classifiers, activation patching, and causal tracing.
- 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

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### University of Michigan

Masters Applied Data Science

Ann Arbor, MI

December 2024

### University of California

Bachelors Economics

Los Angeles, CA

June 2021

## ADDITIONAL

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**Clearance:** Secret Security Clearance

**Languages:** Python, R, SQL (Microsoft SQL Server, PostgreSQL), Shell/Bash, HTML/CSS

**Data Science Tools:** Databricks, AWS, Microsoft Azure, Qlik, Palantir Foundry, 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