

# ARYAN HEMANI

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## PROFESSIONAL EXPERIENCE

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### Analysis Group

*Analyst, Quantitative Analytics*

**Los Angeles, USA**

*March 2025 - Present*

#### Product Analytics, Machine Learning & Experimentation

- Designed and analyzed A/B tests using SQL and nonparametric hypothesis testing to address cross-platform rating bias and inform marketplace performance decisions.
- Designed and evaluated pre/post marketing experiments using LDA topic modeling to segment user behavior, informing campaign ROI and funnel optimization.
- Developed lagged time-series and XGBoost forecasting models to quantify causal campaign impact; aggregated NLP-derived behavioral signals, identifying a **9% post-campaign lift**.
- Implemented unsupervised and supervised LLM-based classifiers and validated model outputs against human-labeled samples using confusion matrices, achieving **85% agreement**.
- Built scalable NLP pipelines ingesting **1.2M+ product reviews**, applying GPT-4-based sentiment classification to generate customer-experience KPIs at cohort and segment levels.
- Served as a primary power user and internal advisor for the firm's proprietary LLM, mentoring analysts through senior analysts on advanced usage, including prompt optimization, CLI-based workflows, and integration into repeatable analytical pipelines.
- Built Kedro-based ETL pipelines to process unstructured non-OCR PDFs; trained a custom Azure Document Intelligence model to automate data extraction and validation, saving **80+ hours** of manual review.
- Evaluated psoriasis treatment effectiveness using diff-in-diff multinomial regression, identifying **19% outcome shift**.
- Analyzed energy pricing and generation data in SQL to model supply–demand dynamics, forecasting **7% post-merger capacity changes** using regression with region and time fixed effects for regulatory approval.

### Analysis Group

*Summer Analyst*

**Los Angeles, USA**

*June 2024 - August 2024*

- Built churn propensity models using sentiment and sales data, segmenting products into risk groups and identifying high-risk segments with **17% lower sales persistence**.
- Deployed a suspicious-order monitoring pipeline combining rolling regression and neural-network models to detect anomalous behavior, improving detection accuracy by **25%**.
- Owned large-scale cleaning of **4TB JSON data**, stitching semi-structured text data using vectorization and regex logic; reduced processing time by **40%** with Polars lazy scanning.
- Developed an internal Python visualization package (Matplotlib) to standardize visualization and reduce reporting time by **50%**.

### Parliament of India

*Legislative Research Assistant (former Union & Agriculture Minister, Sharad Pawar)*

**New Delhi, India**

*Legislative Research Assistant (Member of Parliament, Supriya Sule)*

*July 2022 - March 2023*

*July 2023 - August 2023*

- Analyzed large-scale pricing data in R using pooled OLS regression to identify a **12% gender-based price gap**, supporting the data-driven design of The Pink Tax Prohibition Bill, 2023.
- Drafted legislative briefs for **170+ bills**, synthesizing results from econometric methods, including regression modeling, predictive models, and clustering techniques to identify patterns across large policy datasets.
- Supported drafting and Parliamentary issuance of The Protection of Rights of Widows Bill, 2022, quantifying policy impact through statistics, projecting a **25% reduction** in discrimination and a **15% increase** in education and employment outcomes.

### Wave Digital Assets

*Data Science, Project Lead*

**Los Angeles, USA**

*January 2024 - June 2024*

- Led a team of 4 to build a **real-time decision engine** integrating live APIs and ML inference; deployed Random Forest models to support automated decisioning, reducing processing costs by **~20%**.(UCLA Applied Business Project).

## SKILLS

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**Skills:** Python, R, SAS, SQL (Snowflake), Git, Bash, Linux, Scikit-learn, XGBoost, NLP (LLMs, RAG, LlamaIndex), Time Series, Anomaly Detection, Experimentation, Spark, PySpark, Hadoop, Databricks, Airflow, Docker, CI/CD, Power BI, Looker, Excel

## EDUCATION

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### University of California - Los Angeles

*Master's, Quantitative Economics, Concentration: Data Analytics*

**September 2023 - December 2024**

### London School of Economics and Political Science (LSE)

*Bachelor's, Economics; First Class Honors*

**September 2019 - August 2022**