

ADIT SHRIMAL

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PROFESSIONAL EXPERIENCE

Optum (UnitedHealth Group)

Aug 2023 - Present

Senior Data Scientist

- Developed a financial abuse detection system for high-risk healthcare claims using XGBoost (PySpark, SQL), improving TPR from 52% to 71% while maintaining low false positives.
- Engineered temporal and behavioral fraud signals from sequential diagnosis/procedure codes using BioBERT embeddings in AzureML.
- Designed model and data drift monitoring using Population Stability Index (PSI) to ensure model reliability.
- Applied SHAP values to produce localized, review-ready explanations for flagged claims, reducing investigation turnaround time.
- Created dashboards and presented risk model insights to leadership, enabling data-backed fraud mitigation strategies.
 - Enabled estimated savings of \$12M+ annually by reducing undetected overpayments and enhancing manual review efficiency.

Amazon Web Services

Nov 2022 - Jul 2023

Machine Learning Engineer - Internship

- Designed and deployed a GRU4Rec-based recommendation system using PyTorch, achieving NDCG@10 of 0.42 on sequential benchmark data as part of an internal proof-of-concept for explainable recommendations.
- Led the initiative on explainability using SHAP, KernelSHAP, and TimeSHAP, and co-authored an internal research paper with the AWS team (under review).

Fractal Analytics

Nov 2021 - Jun 2022

Data Scientist / Engineer

- Architected data-driven solutions for client data warehouses using GCP (Airflow, Dataflow, BigQuery, Cloud Storage), reducing data processing time by 30%.
- Boosted conversion rate from 20% to 23.6%, by implementing RFM segmentation in marketing strategies.
- Built a customer propensity model using logistic regression to identify behavioral patterns, enabling 15% lift in cross-selling and fraud flagging.

Bewakoof Brands Pvt. Ltd.

Feb 2020 - Nov 2021

Data Scientist

- Devised a product ranking auto-sort algorithm, boosting CTR by 26% and A2C by 12%.
- Utilized ALS in the implementation of a personalized recommendation engine, resulting in a 14% rise in RPTI.
- Conducted A/B testing on homepage layout variants to compare static vs. dynamic product widgets, leading to a 6% increase in conversion rate for new users.
- Developed a sentiment analysis model for customer reviews using NLP, leading to a decrease in customer complaints.

Reliance Jio

Jul 2018 - Feb 2020

Data Engineer

- Engineered a streaming data pipeline using Kafka, Flink & Elasticsearch, handling ~150k/sec events in real-time with zero data lag.
- Built dashboards using Tableau and Kibana, enabling non-technical stakeholders to monitor key business KPIs.

EDUCATION

M.S. in Data Science, University of San Francisco

Jul 2022 - Jun 2023

Relevant Coursework: Probability & Statistics, Statistical Modeling, Linear Regression, Machine Learning, A/B Testing, Distributed Computing (Spark), Relational Databases (SQL), NoSQL, MLOps, Data Engineering

B.E. in Computer Engineering, University of Mumbai

Jul 2015 - May 2018

TECHNICAL SKILLS

- Programming Languages:** Python, Java, Bash
- Databases:** MySQL, Oracle, MongoDB, Elasticsearch
- Big Data & Cloud:** Kafka, Spark, Flink, HDFS, Airflow, Google Cloud Platform (GCP), Amazon Web Services (AWS)
- Machine Learning:** Linear Regression, Logistic Regression, Decision Trees, Random Forest, Kmeans, Gradient Boosting Machines (XGBoost), SVD, PCA, Collaborative Filtering (ALS), Natural Language Processing (NLP).
- MLOps:** MLFlow, Data Version Control (DVC), Git, CI/CD, Docker, Kubernetes, API design (Flask)
- Data Visualization:** Tools - Tableau, Metabase, Kibana; Libraries - Matplotlib, Seaborn