

JASH MAVANI

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SUMMARY

Data Scientist with 4+ years of experience in fraud detection, anomaly analytics, and churn modeling across healthcare and e-commerce domains. Hands-on with Python (Pandas, NumPy, scikit-learn, XGBoost), SQL, Power BI, Tableau, and AWS/Azure for building and deploying ML models at scale. Delivered measurable impact including detecting \$460K+ in healthcare overbilling, improving transaction fraud detection rates by 29%, and reducing false-positive investigations by 37% through targeted feature engineering and real-time scoring APIs..

EXPERIENCE

MORGAN STANLEY

Aug 2024 - Current

Data Scientist (Fraud Detection & Compliance Analytics)

Project: *AI-Powered Transaction Fraud Detection & Investigation Platform*

Remote, USA

- Built a **Python-based fraud detection model** using XGBoost and Isolation Forest to flag suspicious trades and payments, improving detection rate by **29%** over existing rules-based systems.
- Engineered 80+ domain-specific features from trade, payment, and KYC datasets, including velocity metrics, counterparty risk scores, and behavioral patterns, to improve model precision.
- Implemented a **real-time anomaly scoring API** in Flask, deployed on AWS Lambda, processing **250K+ transactions daily** with sub-second latency.
- Designed a **graph-based network analysis** module in Neo4j to uncover hidden relationships between accounts involved in suspicious activity, enabling early detection of fraud rings.
- Integrated model outputs into a **Power BI compliance dashboard**, allowing investigators to drill into flagged transactions with visualized risk indicators and supporting evidence.
- Developed an **explainability layer** using SHAP values so compliance officers could see why each transaction was flagged, streamlining regulatory reporting and reducing false positive review time by **37%**.

BIGSCALE TECHNOLOGIES PVT. LTD.

May 2021 - Aug 2023

Data Scientist (Healthcare Anomaly Detection & Claims Risk Analytics)

Project: *Advanced Anomaly Detection for Healthcare Claims & Clinical Data*

Surat, India

- Developed a **Python-based anomaly detection model** using Isolation Forest and DBSCAN to flag suspicious claim submissions, identifying **\$460K** in potential overbilling within 6 months.
- Processed and analyzed **5M+ patient records** from hospital EMRs, insurance claims, and pharmacy data, performing data cleaning and entity resolution in Pandas and SQL.
- Built an **NLP pipeline** with spaCy to parse unstructured claim notes, extracting diagnosis codes, treatment details, and billing items for anomaly detection input features.
- Integrated **time-series anomaly detection** using Prophet to monitor patient vital signs in ICU data streams, alerting care teams of abnormal trends in real time.
- Designed an **ETL workflow** in Python and Azure Data Factory to pull daily claim batches from partner hospitals, transforming them into a unified Snowflake data model.
- Created an **Power BI dashboard** for compliance officers to visualize anomaly clusters, claim amounts, and risk scores across hospital networks.

TECHNICAL SKILLS

Programming & Tools: Python, SQL, Docker, Kubernetes, CI/CD Pipelines, Git, Jenkins, Agile, Scrum, JIRA

Data Science & Machine Learning: Time Series Analysis, Supervised Learning, Unsupervised Learning, Anomaly Detection, Statistical Modeling, Predictive Modeling, Deep Learning, TensorFlow, Keras, PyTorch, Neural Network

Data Engineering & Cloud: AWS, MapReduce, Data Warehousing, ETL, Data Integration,

Data Visualization & Analytics: NumPy, Pandas, Matplotlib, Seaborn, Tableau, Looker, Power BI, DAX, Statistical Analysis, Hypothesis Testing, ANOVA, Regression Analysis, Exploratory Data Analysis, A/B Testing

Database Technologies: MySQL, SQL Server, Oracle, MongoDB, Data Migration, NoSQL Databases, Relational Databases, Data Modeling, Database Administration, Data Governance

Certifications & Achievements: Google Analytics | Machine Learning Specialization by DeepLearning.ai | Codebasics Data-Science & AI Course (Python,SQL) Secured 5-star Gold badge in HackerRank for SQL.

EDUCATION

University of Massachusetts, Boston, MA || Master of Science in **Computer Science** || **May - 2025**

Nirma University, Ahmedabad, India || Bachelor of Science in Computer Science || **May - 2023**