

Vigneshwari Jayaprakash

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Portfolio: vigneshwarijayaprakash.github.io

Data Scientist with 5+ years delivering production analytics and ML solutions in regulated environments (government, transportation, enterprise). Strong in Python, SQL, statistics, and experimentation, with proven results shipping decision-ready insights and ML systems driving 45% latency reduction, 30% productivity lift, and \$1M+ cost savings.

EDUCATION

Arizona State University	Tempe, AZ
<i>Master of Science in Data Science (Computing and Decision Analytics) GPA: 4.0/4.0</i>	<i>Aug 2024 – May 2026</i>
Anna University	India
<i>Bachelor of Technology in Information Technology GPA: 3.6/4.0</i>	<i>2009 – 2013</i>

TECHNICAL SKILLS

Programming & Analysis	Python (Pandas, NumPy, scikit-learn), SQL, R
Statistics & Experimentation	Hypothesis Testing, Confidence Intervals, Regression, Experiment Design, A/B Testing
Machine Learning	Classification, Regression, Clustering, Anomaly Detection, Forecasting, Feature Engineering, Model Evaluation, TensorFlow, PyTorch
GenAI / NLP	LLM Integration, Embeddings, Retrieval-Augmented Generation (RAG)
Data Engineering	ETL Pipelines, Data Modeling, Data Validation, Automation
Visualization & Reporting	Tableau, Power BI, Excel, Executive Dashboards, Data Storytelling
Collaboration	Git, Code Reviews, Documentation, Agile (Scrum/Kanban)
Certifications	Machine Learning Specialization, Deep Learning Specialization, Gen AI with AWS

EXPERIENCE

New Mexico Department of Information Technology	USA
<i>Data Scientist – Machine Learning & Analytics</i>	<i>Jun 2025 – Dec 2025</i>
<ul style="list-style-type: none">Owned end-to-end analytics delivery: problem framing with stakeholders, metric definition, dataset creation (Python/SQL), and executive-ready insights for statewide cybersecurity operations.Built and shipped the department's first GenAI-powered conversational analytics system using LLMs, embeddings, and RAG, reducing incident insight retrieval from minutes to seconds.Developed predictive and anomaly-focused models over 10,000+ incident records, accelerating triage and supporting proactive risk mitigation.Designed statistical comparisons and iterative experiments (A/B-style testing) to evaluate workflow changes, driving 30% analyst productivity improvement.Optimized analytics pipelines and data access patterns, achieving 45% reduction in retrieval latency and improving system responsiveness.	
Infosys Limited	India
<i>Technology Analyst & Senior Software Engineer (Data & Analytics) (Client: BNSF)</i>	<i>Oct 2013 – Jan 2019</i>
<ul style="list-style-type: none">Delivered analytics and data solutions across sourcing, finance, HR, transportation operations, and medical systems in a high-volume enterprise environment.Built an automated fraud detection and financial reconciliation system that replaced manual checks and delivered \$1M+ annual cost savings (CFO recognition).Applied statistical analysis and predictive modeling (regression, classification, anomaly detection) using Python and SQL to surface inefficiencies and operational risk patterns.Designed and optimized data pipelines processing 1M+ records/day, reducing reporting latency by 40% and improving reliability.	

PROJECTS

Transaction Risk Scoring & Anomaly Detection Platform <i>Python, scikit-learn, XGBoost</i>
<ul style="list-style-type: none">Developed a time-aware transaction risk scoring pipeline on 300k+ transactions, using leakage-safe temporal validation and behavioral feature engineering to model fraud under extreme class imbalance.Designed temporal and entity-level behavioral features, optimizing decision thresholds with Matthews Correlation Coefficient and PR-AUC (0.50 each) and validating risk drivers through SHAP-based explanations.
Adaptive Offer Selection & Learning System <i>Python, Reinforcement Learning, Streamlit</i>
<ul style="list-style-type: none">Implemented an adaptive offer selection system using a contextual bandit Linear Upper Confidence Bound to learn optimal promotions based on user context and historical interactions.Observed a 130% lift in simulated conversion rate compared to static A/B baselines and built an interactive Streamlit dashboard to visualize policy learning and reward trends.

AWARDS & ACHIEVEMENTS

Insta Award for modernizing legacy systems; **CFO Recognition** (BNSF Railway) for \$1M+ savings from fraud detection.