

Vigneshwari Jayaprakash

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PROFESSIONAL SUMMARY

Data Scientist with 5+ years of experience in ML, Generative AI, and large-scale analytics delivering \$1M+ business impact. Currently pursuing M.S. in Data Science (GPA: 4.0/4.0) at ASU. Expertise in RAG systems, anomaly detection, predictive modeling, and real-time ETL pipelines. Adept at mentoring teams and communicating data-driven insights to executive stakeholders.

EDUCATION

Arizona State University

M.S. in Data Science (Computing & Decision Analytics) — GPA: 4.0/4.0

Tempe, AZ
Aug 2024 – May 2026 (Expected)

Anna University

B.Tech in Information Technology — GPA: 3.6/4.0

India
2009 – 2013

TECHNICAL SKILLS

Programming: Python, SQL, R, PostgreSQL, Elasticsearch

ML & AI: scikit-learn, XGBoost, PyTorch, TensorFlow, LangChain, Transformers, YOLO, SHAP

Generative AI: RAG Systems, Vector Embeddings, LLM Fine-tuning, Prompt Engineering

Data Engineering: Pandas, NumPy, Apache Spark, ETL Pipelines, Data Validation, REST APIs

Experimentation: A/B Testing, Hypothesis Testing, Feature Engineering, Statistical Modeling

Visualization & Tools: Tableau, Power BI, Docker, Git

Soft Skills: Team Mentorship & Coaching, Stakeholder Communication, Data Storytelling, Cross-functional Collaboration

PROFESSIONAL EXPERIENCE

New Mexico Department of Information Technology

NM, USA

Data Scientist Intern — Machine Learning & Analytics

Jun 2025 – Dec 2025

- Architected GenAI conversational analytics system (LLM + RAG) processing **10K+ cybersecurity incidents**, reducing incident intelligence retrieval time **from hours to seconds**.
- Deployed ensemble anomaly detection models achieving **85% threat detection accuracy** while **reducing false positives by 60%**.
- Streamlined real-time ETL pipelines with automated validation, **improving data quality by 40%** and **reducing manual effort by 30%**.

Infosys Ltd — Client: BNSF Railway

India

Technology Analyst & Senior Software Engineer (Data & Analytics)

Oct 2013 – Jan 2019

- Developed ML-powered fraud detection system using ensemble modeling (XGBoost + Random Forest), processing **1M+ daily transactions** and delivering **\$1M+ annual cost savings** — recognized by BNSF Railway CFO.
- Designed predictive maintenance models for **500+ locomotives**, **reducing unplanned downtime by 25%** through early failure detection; presented findings to technical and executive stakeholders.
- Orchestrated distributed ETL framework handling **5TB+ daily data ingestion** with **99.9% uptime**, supporting real-time operational analytics.
- Mentored **5 junior analysts** on data analytics tools including Tableau, SQL, and Python, **enabling independent dashboard delivery within 4 weeks**.

Relocation & Professional Development

United States

Independent Upskilling

2019 – 2024

- Relocated to the United States; independently upskilled in Generative AI, LLMs, and RAG systems while contributing to community-based creative projects.

PROJECTS

AI-Powered Railway Track Defect Detection | Python, PyTorch, YOLO, OpenCV

- Built computer vision pipeline processing **500+ hours of footage** to detect safety-critical defects with **92% accuracy**, **reducing manual inspection effort by 40%**.

Transaction Risk Scoring & Fraud Detection Platform | Python, XGBoost, scikit-learn, SHAP

- Synthesized time-series features from **300K+ transactions**; launched production scoring API handling **10K+ daily transactions** at **sub-200ms latency** for real-time decision support.

Dynamic Pricing & Offer Optimization Engine | Python, Contextual Bandits, Feature Engineering

- Implemented contextual multi-armed bandit (Thompson sampling) across **15 user segments**, achieving **130% conversion lift** over rule-based baseline from **50K+ user interactions**.

AWARDS & RECOGNITION

Gold Medalist (UG) — Anna University | **ASU Scholar** — Arizona State University | **CFO Recognition** — BNSF Railway (\$1M+ savings via fraud detection) | **Instant Award** — Infosys (legacy system modernization)