

# 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

<b>Arizona State University</b>	Tempe, AZ
<i>M.S. in Data Science (Computing &amp; Decision Analytics) – GPA: 4.0/4.0</i>	<i>Aug 2024 – May 2026 (Expected)</i>
<b>Anna University</b>	India
<i>B.Tech in Information Technology – GPA: 3.6/4.0</i>	<i>2009 – 2013</i>

## 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

<b>New Mexico Department of Information Technology</b>	NM, USA
<i>Data Scientist Intern – Machine Learning &amp; Analytics</i>	<i>Jun 2025 – Dec 2025</i>
• Architected GenAI conversational analytics system (LLM + RAG) processing <b>10K+ cybersecurity incidents</b> , reducing incident intelligence retrieval time <b>from hours to seconds</b> .	
• Deployed ensemble anomaly detection models achieving <b>85% threat detection accuracy</b> while <b>reducing false positives by 60%</b> .	
• Streamlined real-time ETL pipelines with automated validation, <b>improving data quality by 40%</b> and <b>reducing manual effort by 30%</b> .	
<b>Infosys Ltd – Client: BNSF Railway</b>	India
<i>Technology Analyst &amp; Senior Software Engineer (Data &amp; Analytics)</i>	<i>Oct 2013 – Jan 2019</i>
• Developed ML-powered fraud detection system using ensemble modeling (XGBoost + Random Forest), processing <b>1M+ daily transactions</b> and delivering <b>\$1M+ annual cost savings</b> – recognized by BNSF Railway CFO.	
• Designed predictive maintenance models for <b>500+ locomotives</b> , <b>reducing unplanned downtime by 25%</b> through early failure detection; presented findings to technical and executive stakeholders.	
• Orchestrated distributed ETL framework handling <b>5TB+ daily data ingestion</b> with <b>99.9% uptime</b> , supporting real-time operational analytics.	
• Mentored <b>5 junior analysts</b> on data analytics tools including Tableau, SQL, and Python, <b>enabling independent dashboard delivery within 4 weeks</b> .	
<b>Relocation &amp; Professional Development</b>	United States
<i>Independent Upskilling</i>	<i>2019 – 2024</i>
• Relocated to the United States; independently upskilled in Generative AI, LLMs, and RAG systems while contributing to community-based creative projects.	

## PROJECTS

<b>AI-Powered Railway Track Defect Detection</b>   <i>Python, PyTorch, YOLO, OpenCV</i>
• Built computer vision pipeline processing <b>500+ hours of footage</b> to detect safety-critical defects with <b>92% accuracy</b> , <b>reducing manual inspection effort by 40%</b> .
<b>Transaction Risk Scoring &amp; Fraud Detection Platform</b>   <i>Python, XGBoost, scikit-learn, SHAP</i>
• Synthesized time-series features from <b>300K+ transactions</b> ; launched production scoring API handling <b>10K+ daily transactions</b> at <b>sub-200ms latency</b> for real-time decision support.

## 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)