

Sanjana Onteru

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Work Experience

Lore Health

Machine Learning Engineer | Engine Lab Squad

July 2025 - Present

- Designed and productionized **real-time ML pipelines** in Python for conversational anomaly detection, **streaming 50K+ messages** daily with <200ms latency to monitor sentiment shifts, topic spikes, and atypical behaviors.
- Built **MLOps foundations** with CI/CD for models and services, feature store patterns, observability, and runbooks, enabling reliable research-to-production deployments
- Developed **synthetic datasets and ran 200+ fine-tuning experiments** to validate conversational models, boosting anomaly detection **precision by ~12%** and accelerating iteration cycles.
- Partnered with **Compliance, Data, and Research squads** to implement model guardrails, approval flows, and incident response procedures, ensuring **zero high-risk production escalations** post-launch
- Launched **TeamsBot + n8n orchestration** across GCP/Azure to automate IAM and resource requests via APIs, cutting pipeline setup time from **hours to minutes** and reducing infra bottlenecks.

Barclays Bank

Data Insights Analyst, Project Lead | US Consumer Bank

December 2021 - June 2025

- **Built and deployed forecasting models** (Python, PySpark, AWS) that informed business strategy, delivering measurable revenue gains and cost reductions for operations.
- **Engineered automated QA pipelines** in Python/NLP to analyze **1.5M+ customer calls monthly**, reducing false positives in profanity detection by **20%+** and improving compliance accuracy.
- **Led the Quality Assurance Automation program**, transitioning static reports into real-time Tableau dashboards and deploying the **Agents Profanity Monitoring ML model** into production for COO oversight.
- Directed **6 UAT rounds** to retune, validate, and test anomaly data; refined definitions of profane words and call states (on-hold vs. active). Reduced false positives from ~5,000 to ~50 per month, improving compliance accuracy and streamlining QA review processes.
- **Designed and implemented end-to-end ML pipelines**, integrating model training, validation, and deployment for banking use cases in strategy, marketing, and product.
- Applied statistical and machine learning models to size opportunities and optimize targeting, directly reducing call reasons and informing executive decisions across Consumer Bank.
- **Analyzed behavioral data** (SQL, Python) to uncover customer engagement patterns, driving **10%+ lift in retention initiatives**.
- **Delivered data products at scale**: Tableau dashboards, automated Daily Issues reports, and model-driven recommendations used by **100+ senior stakeholders**.
- **Integrated multimodal datasets** (Oracle, AWS S3, call transcripts, clickstream logs) to build custom executive reports and identify drop-off points where digital journeys triggered agent calls, cutting unnecessary transfers by **~8%**.

Caterpillar

Business Analytics Intern

June 2020 - September 2020

- Delivered B2B and B2C migration strategy by analyzing consumer behavior and designing an adoption roadmap, leveraging Power BI to deliver actionable insights.

Education

Pennsylvania State University

August 2019 - August 2021

Masters, Business Analytics

Master in Professional Studies, Management and Organizational Leadership

SRM University, SRM Institute of Science and Technology

August 2014 - August 2018

Bachelor of Technology, Information and Telecommunication Engineering

Skills

Certifications: Project Management Professional Certified (PMP, PMI), AWS Certified Machine Learning – Associate, Lean Six Sigma Black Belt, Tableau Certified Data Analyst

Languages & Tools: Python, SQL, R, Terraform. **Databases and Visualization tools:** MySQL, Oracle, Alteryx, PowerBI, Tableau.

Program Management: Sprint Planning, Roadmap Alignment, OKRs, Stakeholder Management, UAT Rounds, Risk Mitigation

Cloud & MLOps: AWS SageMaker, AWS Bedrock, S3, Lambda, EC2, GCP Vertex AI, Azure ML, Docker, Kubernetes, MLflow, CI/CD

Software: Jupyter Notebook, PyCharm, MATLAB, VS Code, Jira, Git, Microsoft 365

Currently holding an H1B visa with authorization to work for any employer in the United States