Charishma Polineni

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AI/ML Engineer with 5 years of experience building and deploying production-grade Machine Learning and NLP solutions. Skilled in forecasting, classification, ETL pipelines, and semantic matching. Strong in Python, SQL, and end-to-end ML workflow development with real-world deployments.

EXPERIENCE

Graduate Assistant – IT Engineer   08/2023 – 05/2025
Texas Tech University

- Worked as a Graduate Assistant – IT Engineer for nearly 2 years, providing hands-on IT and systems support in an academic and administrative environment.
- Delivered end-user technical support, troubleshooting hardware, software, network, and application issues to ensure uninterrupted operations.
- Assisted with IT infrastructure maintenance, including system configuration, user access management, software installations, and updates.
- Followed best practices for security, access control, and data privacy within the university IT environment.
- Demonstrated strong problem-solving, communication, and time management skills while balancing academic and technical responsibilities.
- Created and maintained technical documentation and process guides for recurring IT tasks and issue resolution.

American Airlines   07/2022 – 07/2023
AI/ML Engineer Hyderabad, India

- Designed and deployed predictive ML systems for flight delay and passenger demand forecasting, improving operational accuracy by 18% and supporting enterprise decision pipelines.
- Developed and optimized NLP-based classification models to categorize and route customer service tickets, reducing average response time by 30%.
- Implemented ETL workflows and metadata management for large-scale structured and unstructured datasets (millions of rows) using Python, SQL, and PySpark.

HD Supply   06/2021 – 07/2022
Machine Learning Intern Hyderabad, India

- Developed and deployed ML models for customer segmentation and churn prediction using scikit-learn, TensorFlow, and Python, improving retention analysis and marketing targeting accuracy by 20%.
- Built a recommendation engine prototype leveraging collaborative filtering and NLP-based text similarity to enhance personalization across retail categories.
- Worked on vector-based search experiments using embedding models to explore semantic matching, foundational experience for RAG and GenAI use cases.

PERSONAL PROJECTS

Resume Parser AI (Multi Job Titles + JD Match)

- Built an NLP-based resume screening tool that scores resumes (0–10) against job titles and job descriptions using TF-IDF and cosine similarity.
- Implemented resume cleaning and normalization using NLTK (tokenization, stop words removal, lemmatization).
- Added job title search and top-matching job suggestions with a deployed Stream lit UI.

Sumarishma – Dynamic Multi-Domain Web Platform

- Designed and developed a real-time dynamic web application integrating Business, IT Skills, Jobs, Fashion, Cooking, Entertainment, and Music.
- Integrated live API-based content and Firebase authentication for practical daily usage.
- Deployed on Vercel with a clean production-ready build, showing real-world deployment experience (live hosting, working links, and professional UI).

Road Accident Dashboard (Microsoft Excel)

- Designed an interactive Excel dashboard using Pivot Tables, Slicers, Pivot Charts, and Conditional Formatting.

- Analyzed accident trends by year, location, severity (Fatal/Serious/Slight), and vehicle type.
- Created drill-down reports and comparison visuals to generate actionable insights.

Predicting Credit Card Fraud (Machine Learning)
- Preprocessed 280K+ transactions by handling missing values, scaling features, and cleaning data.
- Addressed severe class imbalance using SMOTE and trained multiple ML models.
- Evaluated models using Precision, Recall, F1-score, and AUC-ROC to minimize false negatives.

CRM Application Development – Palantir Foundry
- Built a CRM (Customer Relationship Management) application using Palantir Foundry as part of the Rangr Data work sample test.Designed Company and Person objects with full create, update, and delete actions.
- Enabled linking of People to Companies to represent real-world CRM relationships.
- Implemented live updates where changes to operational data were instantly reflected in analytics.
- Built an interactive Revenue by Industry dashboard using Foundry Contour.
- Translated business CRM requirements into Foundry-native concepts such as objects, actions, and links.
- Developed end-to-end workflows from raw datasets to cleaned pipelines, operational objects, and dashboards.
- Gained hands-on experience building flexible, real-time CRM systems using Foundry.

SKILLS

- **Programming:** Python, R, SQL,C++
- **Machine Learning & AI:** scikit-learn, TensorFlow, supervised & unsupervised learning, model training, hyperparameter tuning, feature engineering, model evaluation
- **Natural Language Processing (NLP):** text preprocessing, TF-IDF, cosine similarity, semantic matching, resume-JD similarity analysis
- **Data Engineering & Pipelines:** ETL pipelines, PySpark, structured & unstructured data processing, data validation
- **MLOps & Production Concepts:** experiment tracking, model versioning, inference workflows, basic deployment practices
- **Analytics & Visualization:** Power BI, Excel dashboards, data reporting
- **Databases & Warehousing:** SQL Server, Snowflake, relational data modeling
- **Cloud & Deployment:** Streamlit apps, REST APIs, React basics, Firebase authentication
- **Developer Tools:** Git/GitHub, VS Code, Jupyter Notebook

EDUCATION

Texas Tech University   08/2023 – 05/2025
Master of Science in Computer Science Lubbock, TX, USA

Jawaharlal Nehru Technological University (JNTUK)   06/2018 – 07/2022
Bachelor of Technology in Computer Science Kakinada, India