

Nandini Ethirajulu

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Data professional with 6+ years of experience in analytics, business intelligence, and data-driven reporting. Skilled in designing ETL pipelines, data models, and interactive dashboards to turn complex data into actionable business insights. Proficient in Python, R, SQL, Power BI, Tableau, and cloud platforms, with expertise in statistical analysis, predictive modeling, and operational/transactional data, complemented by strong data storytelling and stakeholder communication skills to drive informed business decisions.

EDUCATION

University at Buffalo, The State University of New York

Buffalo, NY

Master of Science – Data Science and Applications

- Completed a rigorous, professional-level program providing advanced, hands-on experience in applying data science, analytics, and machine learning to solve real-world business and operational problems.
- Relevant coursework: *Programming and Databases, DBMS, Numerical Analysis, Probability and Data Analysis, Statistical Data Mining, Machine Learning, Cybersecurity Privacy and Ethics.*

EXPERIENCE

Community Dreams Foundation

Remote, United States

Data Engineer

May 2025 - Present

- Supported the implementation of Azure-based data pipelines and models using ADF, Databricks, and Azure SQL, integrating datasets from multiple sources to improve data accessibility and analytics capability.
- Assisted in optimizing ETL workflows and building data structures to support AI/ML initiatives and performance monitoring, ensuring reliable, well-documented, and scalable data processes.

Local Grown Salads

Remote, United States

Data Engineer

February 2025 – April 2025

- Automated data extraction, transformation, and integration between Odoo ERP (MRP modules) and PostgreSQL using Python, streamlining the flow of production, customer, and quality data across farming subsystems for enhanced business visibility.
- Designed data models and analytics-ready datasets to support performance tracking, production scheduling, and traceability dashboards, enabling proactive decision-making and operational compliance.
- Partnered with cross-functional teams to translate process data into actionable business insights, improving efficiency, ensuring regulatory adherence, and supporting continuous process optimization through data validation and KPI monitoring.

Deloitte Consulting

Chennai, TN, India

Data Analyst

June 2021 - July 2023

- Designed and optimized 300+ SSIS ETL workflows to extract, transform, and load (ETL) high-volume data into a data warehouse, supporting business intelligence reporting for Tennessee State's Benefits System.
- Developed a master ETL orchestration framework, enabling automated execution, logging, and error handling, reducing ETL downtime by 90% and improving data pipeline efficiency.
- Wrote complex SQL queries, stored procedures, and views in Oracle PL/SQL, leveraging CTEs, partitioning, and indexing to process 200+ business-critical reports with enhanced performance.
- Applied data modeling best practices to design fact and dimension tables, supporting Tableau dashboards that provided real-time insights into transactional, eligibility, and benefit issuance data.
- Created federal compliance reports in fixed-length CSV format, integrating business logic to provide structured data submissions to the Administration for Children and Families (ACF).
- Enhanced ETL performance by 43% through data cleansing, redundancy elimination, and transformation, ensuring accurate and efficient integration across systems.
- Collaborated with business stakeholders, analysts, and developers to define BI reporting requirements, ensuring data accuracy, dashboard usability, and KPI tracking. Developed Tableau dashboards for executive-level reporting, providing actionable insights into Eligibility Determination, Benefits Issuance, and Claims data, increasing reporting efficiency by 29%.

Deloitte Consulting

Chennai, TN, India

Associate Analyst

August 2019 - May 2021

- Extracted, transformed, and standardized multi-source datasets for a Legacy System Conversion initiative for the State of Connecticut, ensuring 98% data accuracy and alignment with business intelligence requirements. Improved ETL efficiency by refining SSIS workflows and SQL-based transformations, reducing processing time by 50% and ensuring near-zero data loss.
- Migrated cleansed and structured data into target systems using Salesforce's Bulk API, enhancing data accessibility, downstream analytics, and compliance reporting. Led UAT, system validation, and data reconciliation, ensuring migrated data maintained its accuracy, consistency, and traceability across business operations and BI reports.

TECHNICAL SKILLS

Programming & Scripting:	Python, R, Oracle PL/SQL, Java, SAS, Snowflake, HTML, CSS, JavaScript
Data Analysis & Machine Learning:	Statistical Data Mining, Predictive Modeling, Regression, Classification, Clustering, PCA, Association Rules, Neural Networks, Supervised & Unsupervised Learning, SSIS
Databases & Data Management:	Oracle, MS SQL Server, MySQL, PostgreSQL, Excel, Data Warehouses, Data Lakes, NoSQL (MongoDB), Snowflake SQL, ETL Pipelines, Data Cleaning & Transformation
Business Intelligence & Visualization:	Tableau, Power BI, DAX, Dashboard Design, KPI Tracking, Geospatial Analysis, Data Storytelling
Cloud & Big Data Platforms:	Azure Databricks, ADLS, Blob Storage, Azure Automation, Spark
Workflow & Tools:	Visual Studio, R Studio, Microsoft Office Suite, Git/GitHub, Bitbucket, Jira, Odoo, Agile/Scrum, Data Documentation
Domains & Applications:	Benefits & Claims Data, Loan Default Prediction, Data Warehousing, Retail & Transactional Analytics, Production & Operational Data

PROJECTS

Analysis of Patient Satisfaction in healthcare – A Multiple Regression Approach Using SAS November 2024 – December 2024

- Built a multiple regression model in SAS to predict patient satisfaction, achieving 97.81% R^2 .
- Identified key drivers: staff visits (40%), nurse count (7%), and patient age (negative impact).
- Validated model accuracy by predicting satisfaction scores for new patients within a 95% confidence interval (34.13 – 41.29), supporting data-driven decision-making in patient care.

Loan Repayment Prediction Analysis November 2024 – December 2024

- Preprocessed 37,408 loan records, applied Principal Component Analysis (PCA) to retain 87% variance, and used SMOTE to handle class imbalance, improving model training for default risk prediction.
- Developed logistic regression models, achieving 72.64% balanced accuracy and AUC of 0.78, effectively distinguishing between successful repayments and defaults, supporting risk assessment and lending decisions.

Market Basket Analysis of Customer Purchase Behavior February 2024 – April 2024

- Transformed customer orders dataset, extracted from CRM into a binary transaction matrix, enabling the application of the Apriori algorithm to uncover high-confidence product associations.
- Applied Apriori to identify the top 10 association rules, with the top rule achieving 97.64% confidence and a lift of 2.12, providing actionable insights for optimizing product bundling, promotions, and inventory strategies.

DBMS Project September 2023 – December 2023

- Implemented a normalized Oracle SQL database for banking operations, using data modeling and an ER diagram to define relationships between a fact table and 9-dimension tables, while applying integrity constraints for data consistency.
- Developed optimized SQL queries for transactional and analytical purposes, leveraging indexing, partitioning, and complex joins for efficient data retrieval and reporting.

California Housing Data – Association Rule Analysis

- Analyzed housing attributes using association rule mining (Apriori) to identify relationships between factors like income, location, and property value, supporting data-driven pricing and investment insights.
- Interpreted patterns to understand market behavior and regional trends, providing insights relevant for real estate forecasting and strategic planning.

Grocery Store Transaction Data – Market Basket Analysis

- Conducted transactional data analysis using association rules to identify high-confidence product pairings and purchase behavior patterns.
- Generated insights to enhance marketing strategies, product placement, and revenue growth, enabling data-informed retail decision-making.

Los Angeles Crime Trends Analysis – Power BI Dashboard

- Designed an interactive Power BI dashboard to visualize multi-year crime data, leveraging data modeling, DAX measures, and geospatial analysis to uncover demographic and regional crime patterns. Delivered insights supporting public safety strategy and operational planning.

US Border Crossing Data Analysis – Power BI Dashboard

- Built a comprehensive Power BI report analyzing cross-border movement trends (1995–2023) using time-series and geographic visualizations. Enabled data-driven insights for logistics, trade, and policy decision-making through dynamic filtering and KPI tracking.

AWARDS & RECOGNITION

- Outstanding Performance Award – Deloitte USI Consulting (2023): Recognized for completing a complex module on time under resource constraints.
- Applause & Spot Awards – Deloitte USI Consulting (2022): Delivered 200+ reports and 300+ ETL jobs while managing ad-hoc tasks; mentored new team members to ensure smooth functional and technical knowledge transfer.