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Education

University of Connecticut, School of Business | Hartford, CT

Master of Science in Business Analytics and Project Management

August 2022 – May 2024

GPA: 3.65/4.0

Certifications:

- Google Data Analytics Professional Certification
- AWS Certified Cloud Practitioner
- Forage SAP Technical Consulting Virtual Internship

Work Experience

Business Analyst | Reality Interactive

August 2023 – December 2023

- Processed 256GB of raw data using PySpark and Excel to detect anomalies in display screen log files, addressing frequent customer complaints.
- Developed Python scripts to parse log files and flag critical error patterns, identifying a video playback issue affecting 15% of devices.
- Improved system reliability by 50% through proposed scheduled update procedures, resolving content rollback anomalies during updates.
- Reduced downtime by 20% by implementing Power BI dashboards to monitor screen uptime and failures across various locations.

Research Publications

Deep Neural Network Heartbeats Classifier

Published in Science Direct, 2022

- Overview: Developed a highly accurate model for cardiac rhythm classification using advanced neural network architectures and data preprocessing techniques.

Key Contributions:

Model Design and Implementation:

- Designed and implemented a cardiac rhythm classification model using One-Dimensional Convolutional Neural Networks (1D-CNN), specifically the LENET architecture.
- Achieved a 97% accuracy rate for reliable detection and classification of various cardiac rhythms.

Data Imbalance Resolution:

- Addressed data imbalance in the MIT-BIH dataset by integrating the Synthetic Minority Over-sampling Technique (SMOTE), improving overall classification performance by 10%.

Technical Details:

- Utilized the MIT-BIH Arrhythmia Database for annotated ECG recordings.
- Implemented 1D-CNN to capture temporal patterns in ECG signals.
- Applied SMOTE to generate synthetic samples for underrepresented classes.

Impact and Implications:

- Significant advancement in cardiac health monitoring with a highly accurate tool for automatic heartbeat classification.
- Contributes to early diagnosis and treatment of cardiac arrhythmias, potentially reducing heart-related complications.

Projects

ETL Pipeline Using Python

- Developed an ETL pipeline using Python to transfer data from Microsoft SQL Server (MSSQL) to PostgreSQL, ensuring data integrity and structure.
- Utilized SQLAlchemy to establish database connections, facilitating efficient data extraction and loading between MSSQL and PostgreSQL.
- Executed SQL queries to retrieve table and view names from MSSQL, addressing unsupported column types and ensuring compatibility with PostgreSQL.
- Streamlined data loading into PostgreSQL by reading data in manageable chunks with pandas, replicating the schema structure accurately.

Sentiment Analysis on Amazon Fine-Food Reviews

- Developed a sentiment analysis system using VADER and the Roberta model.
- Cleaned and prepared datasets for analysis, implementing VADER and leveraging Huggingface's pre-trained Roberta model.
- Conducted a thorough comparison of both approaches by analyzing accuracy, precision, recall, and F1 scores.
- Created visualizations using Matplotlib and Seaborn to present performance metrics and sentiment distribution.

Real Estate Housing Price Analysis

- Analyzed real estate data in the USA using SQL and created an interactive Tableau dashboard.
- Collected and processed over 200,000 real estate listings, ensuring data integrity and consistency.
- Designed interactive Tableau dashboards to visualize property prices, trends, and geographical distributions.
- Optimized SQL queries for better performance, maintaining the responsiveness of Tableau dashboards.

Skills

- Analytical Tools: SQL, Python, R, SAS, Alteryx, JMP, Postgres SQL, MSSQL Server, AWS
- Data Visualization: Tableau, Power BI, Visio, QGIS, VBA
- Microsoft Office Suite: Excel, Word, Outlook, PowerPoint

Links

LinkedIn: <https://www.linkedin.com/in/ameya-sanjanita/>