Manoj Kumar Ashok

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Education

DePaul University Chicago, IL

Master of Data Science, Concentrated on computational methods - ***GPA:*** *4.0/4.0* *Jan 2024 – Nov 2025*

Coursework: Data analysis and regression, **Mining Big data**, Advanced Machine Learning, Fundamentals of Data Science, Advanced Data analysis, Database processing for large scale analytics, **Neural Networks and Deep Learning**, **Natural Language Processing**.

Technical Skills

Languages : Python, R, SQL
Developer Tools: RStudio, SQL Server, Kafka, Git, hadoop, Apache spark
Database Management: Database Management: MySQL, RDBMS (Oracle), Hive, MongoDB, ETL, Airflow, SSIS
Cloud platforms: Data pipelines- Azure data factory, AWS-redshift, Big Query, Dataflow
Visualization: Matplotlib, Seaborn, ggplot2, Tableau, PowerBI, quickSight, snowflake

Experience

Software Developer - Data Engineering team *Jan 2023–July 2023*

Zoho Corporation *Chennai, India*

- **Developed and optimized data processing** scripts using **Python** and **SQL** to automate the **extraction, transformation**, and analysis of large datasets from Zoho CRM and Zoho Books, resulting in a **20%** increase in **data management** efficiency.
- Engineered custom solutions for data visualization and reporting using **Tableau** and **Microsoft Excel**, integrating advanced **SQL queries** and automating **data pipelines**, which improved business process insights and decision-making.
- Designed and implemented **data models** and **statistical analysis** workflows to track key trends in support data, improving customer issue resolution by **10%** through more efficient querying and reporting.
- Collaborated with cross-functional teams to architect and deploy scalable **ETL pipelines** using **Airflow** and optimize **data processing** workflows, reducing processing time by **15%** and ensuring reliable data flow across systems.

Projects

Speech Emotion Detection using Deep Learning | ***TensorFlow, SVM,NumPy, Matplotlib*** *July 2023*

* Developed a Speech Emotion Detection model in **Python**, achieving **85%** accuracy using **TensorFlow** and **SVM**, with audio feature extraction performed by LibROSA (e.g., MFCC, Chroma, and Mel Spectrogram).
* Optimized **data preprocessing** with **NumPy**, reducing computation time by **30%**, while maintaining **pipeline** versioning and collaboration with **Git**.
* Enhanced emotion classification accuracy by **25%** through advanced feature engineering and hyperparameter tuning techniques using **Scikit-Learn**.
* Visualized model performance and insights using **Matplotlib**, increasing the efficiency of data interpretation by **20%**

Predictive Analysis for credit limit | ***Python,Scikit-Learn,TensorFlow,SQL,Pandas,NumPy,*** *July 2024*

* Developed a machine learning model using **Python**, **Scikit-Learn**, and **TensorFlow** to derive predictive insights from raw financial data, improving prediction accuracy by **20%** through feature scaling, normalization, and applying **Ridge** and **Lasso Regression** to reduce overfitting and enhance model generalization.
* Preprocessed data with **Pandas** and **NumPy**, reducing anomalies by **25%** and increasing model accuracy by **18%** through feature scaling, outlier detection, and data normalization.
* Used advanced **feature engineering** and hyperparameter tuning, boosting model performance by **22%** and validating results through cross-validation. Evaluated models using **RMSE, MAE, and R^2**
* Enhanced **data pipeline** efficiency with **SQL**, streamlining data extraction for scalable machine learning pipelines, and visualized insights with **Matplotlib** for effective communication.
* **Optimized the data flow** for batch processing using **cloud services** (Azure Data Factory/AWS Data Pipelines) to manage large-scale data efficiently.