

# Srinivas Reddy Duggampudi

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## Summary

BI Developer at Hobby Lobby Technology with 3+ years' experience and an MS in Business Analytics & Data Science. Adept in Machine Learning modeling and deployment, LLMs, time-series forecasting, ETL pipelines & Data Analytics. Passionate about delivering end-to-end scalable ML solutions that drive measurable business outcomes.

## Professional Experience

### Business Intelligence Developer, Hobby Lobby

May 2024 – Present

#### Sentiment Analysis on Customer Feedback App

- Developed a sentiment analysis pipeline leveraging a pre-trained **uncased-base-BERT** transformer model, **fine-tuned** specifically for sentiment classification along with **Continued Pretraining** technique, and applied **KMeans along with PCA** for clustering to categorize customer feedback
- Analyzed customer feedback to uncover sentiment trends, enabling targeted enhancements that drove a **20% increase** in **Monthly Active Users** sustained over multiple quarters

#### Retail Sales Forecasting

- Built a scalable OLAP pipeline from OLTP data (3M+ records) using **Kimball's** method, enabling statistical analysis and causal inference
- Developed a **SARIMAX model** with exogenous variables and seasonality, outperforming Prophet and regression baselines
- Improved forecast accuracy by **18% (RMSE reduction)**, optimizing inventory planning during promotions and holidays

#### Space Optimization for Retail Badge Engraving using Gurobi

- Built a **2D bin packing** model using **Gurobi** to automate badge layout on engraving sheets, replacing manual placement
- Generated printable PDFs with custom badge shapes using Python and **ReportLab**, ensuring efficient space usage
- Reduced layout time by 80%** and **minimized material waste** through optimization and automation

### Data Scientist GCP, LTI MINDTREE

June 2021–June 2023

#### Credit Card Fraud Detection using Explainable ML

- Secured data pipeline using **Cloud DLP**, **CMEK encryption**, and **IAM** while ingesting from GCS to **BigQuery**
- Trained a **LightGBM model** with 15+ features, handled imbalance with **SMOTE**, and used **SHAP** for model explainability
- Boosted **precision by 3×** and **AUC by 25%**, enabling early, transparent risk identification via optimized thresholding

#### Streaming Data ETL Pipeline: Processing, Analysis, and Visualization of Streaming data

- Ingested streaming data into Google Cloud **Pub/Sub**, transformed it using **Dataflow**, and loaded it into **BigQuery**, reducing query processing time by **50%**
- Utilized **Google Cloud Data Studio** to visualize data from Big Query tables for enhanced analysis and insights

## Technical Skills

**Programming Languages:** Python, SQL

**Databases:** MS SQL server

**Data Science Models:** LLMs (Transformer-based), Deep Learning (CNN, RNN, LSTM), Decision Trees (Random Forest, XGBoost, LightGBM), Logistic/Linear Regression

**ML Libs & Frameworks:** TensorFlow, Pytorch, scikit-Learn | **MLOps:** Kubeflow, MLflow

**Statistics:** Descriptive & Inferential Statistics-Hypothesis Testing, ANOVA, Chi-square test, Causal Inference, A/B Testing

**Version Control:** Git, GitHub | **BI & Analytics tools** – Tableau, Power BI | **Big Data:** Apache Spark | **Cloud:** GCP

## Projects

### Traffic Prediction Using LSTM and Graph Convolution Network ([link](#))

- Built a real-time traffic forecasting app with one-click predictions, deployed via an automated **Kubeflow** pipeline on GCP **Vertex AI** and **CI/CD** using **Cloud Build & Cloud Run**, exposing a Flask API endpoint
- Designed an **LSTM-Graph Convolutional** model to capture temporal trends and dependencies across road networks
- Reduced **MAE by 70%** versus ARIMA and FC-LSTM baselines, substantially boosting prediction accuracy

## Achievements & Certifications

- HuggingFace certification on Building AI Agents
- Ranked Top 30 in Humana Mays Competition 2024
- Tableau Desktop Specialist
- Google Certified Professional Data engineer

## Education

Master of Science in Business Analytics and Data Science, CGPA- 4/4

Aug 2023 - May 2025

Oklahoma State University, OK USA