# SHASHIDHAR THOTA

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## EDUCATION

**University of Texas at Dallas, Richardson, TX**                                    **Aug 2023 – May 2025**
Master of Science in Business Analytics and Artificial Intelligence
**Relevant Coursework:** Quantitative Analysis, Business Intelligence, Predictive Analytics, Product Management

**Vellore Institute of Technology, Vellore, India**                                    **July 2019 – July 2023**
Bachelor of Technology in Electronics and Communication Engineering
**Relevant Coursework:** Digital Logic design, VLSI System design, Computer Organization and Architectures, OOPS

## PROFESSIONAL EXPERIENCE

**Machine Learning & Data Analyst Intern, Monksays Superfoods Pvt Ltd, Hyderabad, India**          **Oct 2022 – July 2023**
- Automated weekly reporting processes for BBetter's e-commerce platform, improving efficiency by 15% and reducing manual effort.
- Analyzed sales and customer behavior across product categories (e.g., diabetes care, supplements), uncovering 3 key trends that informed product and marketing strategies.
- Created dashboards and visualizations using Excel and Python (Pandas, Matplotlib) to support data-driven decisions.
- Built machine learning models using scikit-learn to segment customers and predict potential high-value purchasers.
- Performed feature engineering (e.g., encoding, scaling, interaction terms) to improve model performance and interpretability.
- Delivered actionable insights and recommended optimizations that enhanced marketing targeting and operational efficiency.
- Evaluated model performance using metrics like accuracy and ROC AUC, iterating on features to improve prediction quality.

## ACADEMIC PROJECTS

**Credit Risk Assessment and Strategy Design**
- Processed a 1.1M-row subset from a 5.5M-record dataset with 191 features; performed one-hot encoding and engineered behavioral features to enhance model input quality.
- Trained and tuned XGBoost and Neural Network models using Grid Search; selected XGBoost (AUC 0.98) for its superior generalization and low variance.
- Interpreted model with SHAP analysis and designed threshold-based lending strategies; a conservative strategy (0.3 threshold) achieved 0.95% default rate and $5.9K revenue.

**Time Series Analysis & Forecasting for Business Insights**
- Designed and evaluated time series forecasting models (ARIMA vs. Facebook Prophet) on 149,000+ sales records to predict product demand trends.
- Diagnosed ARIMA's limitations with seasonality (MAPE: 14.2%) and holidays, prompting transition to Prophet with built-in seasonality and holiday regressors.
- Improved forecasting accuracy to 11.6%—an 18% gain—by leveraging Prophet's flexibility and interpretability for business decision-making.
- Delivered an ML solution that aligned with real-world patterns, enhancing model performance and stakeholder confidence.

**Analysis for Auto Insurance Churn**
- Analyzed auto insurance customer churn patterns to identify early-stage drop-offs impacting retention rates.
- Conducted exploratory data analysis and cohort segmentation; created interactive Tableau dashboards to monitor churn drivers, onboarding engagement, and policy lapse trends.
- Identified key churn triggers within the first 30 days, leading to the design of tailored retention strategies—projected to improve early-stage retention by 15% through enhanced onboarding and personalized incentive offers.

## TECHNICAL SKILLS

- **Programming:** Python, R, SQL, Embedded C, MATLAB
- **Tools & Databases:** MySQL, MongoDB, Excel, Tableau, Power BI
- **Machine Learning:** Regression, Random Forest, XGBoost, Gradient Boosting, KNN, Neural Networks, SHAP
- **Statistical Modeling:** Time Series (ARIMA, Prophet), Sampling, Distributions, Inference
- **Data Engineering:** ETL Pipelines, Data Cleaning, Feature Engineering, Data Normalization
- **Reporting:** KPI Dashboards, Weekly Reports, Business Insights, Automation
- **Methodologies:** Predictive Analytics, Forecasting, Experimental Design, A/B Testing

## CERTIFICATIONS

**AZURE AI-900, SQL FUNDAMENTALS, GOOGLE ANALYTICS, GENERATIVE AI FUNDAMENTALS**