

# SURYA YOGANANTHAN

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## EDUCATION

<b>Master of Science in Business Analytics</b> , Northeastern University, Boston, MA	Dec 2025
Specialization: Data Mining, Forecasting Models, ETL Processes, Data Visualization, Hypothesis Testing	
<b>Bachelor of Technology in Mechanical Engineering</b> , Sastra Deemed University, Thanjavur, TN	Aug 2023

## SKILLS

<b>Data Analysis &amp; Modeling:</b> SQL, Excel, Python, Regression Analysis, Statistical Analysis, Forecasting, Hypothesis Testing
<b>Analytics &amp; Tools:</b> XGBoost, LightGBM, Scikit-learn, Alteryx, Google BigQuery, Design Expert 12.0
<b>Visualization &amp; Reporting:</b> Dashboards, KPI Reporting, Data Visualization, Tableau, Plotly
<b>Business &amp; Operations:</b> Process Improvement, Root Cause Analysis, Decision Support, Stakeholder Communication

## PROFESSIONAL EXPERIENCE

<b>Business Analyst, Philanthropy Analytics Project</b> Northeastern University   Boston, MA	Aug 2025 - Dec 2025
<ul style="list-style-type: none"><li>Developed planned gift propensity models using XGBoost and LightGBM on 318,000+ donor records, achieving a 37.7% capture rate in the top 1% tier to support prioritization of high value prospects for the University Advancement team</li><li>Engineered behavioral features and interaction terms to address 53.9% missing demographic data, replacing unreliable age variables with giving recency, lifetime giving, and engagement proxies to preserve predictive accuracy</li><li>Segmented constituents into three likelihood tiers (Top 1%, 5%, 10%), reducing outreach volume by 90% while retaining 75% of likely planned gift donors, enabling more focused and efficient cultivation strategies</li></ul>	
<b>Graduate Teaching Assistant</b> D'Amore-McKim School of Business   Boston, MA	Aug 2025 - Dec 2025
<ul style="list-style-type: none"><li>Supported 190+ graduate and undergraduate students by guiding hands on work in SQL, Python, Excel, Alteryx, and Oracle SQL Developer, strengthening understanding of data wrangling, regression modeling, forecasting, and optimization</li><li>Created and tested SQL scripts, Alteryx workflows, and Excel models for data validation and transformation, enabling end to end analytical workflows covering extraction, cleansing, integration, and aggregation for business cases</li><li>Reviewed 50+ assignments weekly and troubleshooted analytical models during labs and consultations, resolving data quality and logic issues while improving analytical accuracy and consistency in data driven decision making outputs</li></ul>	
<b>Operations Analyst Intern</b> Mahindra & Mahindra Limited   Pollachi, India	Sep 2023 - Jun 2024

<b>Operations Analyst Intern</b> Mahindra & Mahindra Limited   Pollachi, India	Sep 2023 - Jun 2024
<ul style="list-style-type: none"><li>Planned and executed data driven experiments using Design of Experiments and Response Surface Methodology, evaluating 13 experimental conditions to analyze the impact of key process variables on production quality</li><li>Built and validated regression models and conducted ANOVA on process data, achieving 97.33% R<sup>2</sup> accuracy in forecasting tensile strength and hardness while identifying key drivers of variability</li><li>Optimized process parameters based on statistical findings, contributing to a 30% improvement in material strength while reducing rework and repeat testing costs and improving production consistency</li></ul>	
<b>ACADEMIC EXPERIENCE</b>	

<b>Spotify User Behavior Analysis</b> , Northeastern University	May 2025
<ul style="list-style-type: none"><li>Analyzed 150K+ streaming records using Python to predict skip behavior, achieving 97% accuracy with SVM models</li><li>Applied K-Means clustering and PCA to segment users into 4 behavioral groups informing personalized content strategies</li><li>Conducted time series forecasting with ARIMA and Prophet, identifying peak listening hours and weekly engagement spikes for ad placement</li></ul>	
<b>Ride Fare Prediction &amp; Market Analysis</b> , Northeastern University	
<ul style="list-style-type: none"><li>Engineered data pipelines with BigQuery &amp; PySpark, reducing query latency from 4 min to 12 sec across 690K+ ride records</li><li>Built interactive Flask dashboards with dynamic SQL queries and Plotly visualizations for real time route level price comparison</li><li>Developed Random Forest and XGBoost models achieving Mean Absolute Error of \$6.69 for mid range fare predictions</li></ul>	Apr 2025
<b>U.S. Airfare Trend Analytics</b> , Northeastern University	
<ul style="list-style-type: none"><li>Analyzed 3,000+ domestic airfare records (2018–2024) to assess pricing trends, regional disparities, and post-pandemic recovery patterns</li><li>Designed Tableau dashboards highlighting 15–25% inflation adjusted fare increases and cost differences across airport sizes</li><li>Delivered insights supporting pricing strategy, regional capacity planning, and seasonality based decision making</li></ul>	Dec 2024