VISHALA VEMURI

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EDUCATION

The University of Texas at Dallas — **Jan 2024-Present**
Master of Science, Business Analytics and Artificial Intelligence — **GPA 4.0**
National Institute of Technology, Durgapur — **Aug 2013-May 2017**
Bachelor of Technology, Metallurgical and Materials Engineering — **GPA 3.62**

TECHNICAL/LANGUAGE SKILLS

Programming: Python, SQL, R, Git, GitHub
Machine Learning & AI: Regression (Linear, Logistic), Decision Trees, Random Forest, Gradient Boost, PCA, Neural Networks (CNN, RNN, LSTM), Transformer Models (RoBERTa, LLama, Qwen)
Statistical Modeling & Optimization: Forecasting, Time Series Analysis, Clustering, Linear Programming, A/B Testing
Data Engineering & Cloud: AWS tools (S3, EC2, Lambda), Big Data (Hadoop/Spark), DBMS
Tools & Libraries: Scikit-learn, H2O.ai, TensorFlow, Keras
Data Visualization: Tableau, Power BI, Matplotlib, ggplot2, SHAP/PDP Plots, Advanced Excel
Business Tools: Excel, PowerPoint, ERP (SAP), Confluence, Jira
Certifications: Google Data Analytics, Python for Everybody (Coursera)

PROFESSIONAL EXPERIENCE

Rashtriya Ispat Nigam Limited, Visakhapatnam, India
Assistant Manager- Analytics — **Jul 2020 - Nov 2023**

- **Optimized Process Efficiency:** Applied Gradient Boosting models to predict key parameters, boosting Hot Metal quality (+14.3%) and increasing productivity (+20%), driving Industry 4.0 advancements.
- **Predictive Analytics for Production:** Developed regression models to forecast production and silicon levels (R^2 = 0.71, 0.76), improving raw material planning accuracy and reducing variability.
- **Cost Reduction & Strategic Optimization:** Partnered with McKinsey to optimize 7 key KPIs and execute 15 strategic initiatives under 'Project Parivartan,' leading to the development of a predictive fuel rate model that reduced production costs by 8%.
- **Supply Chain Optimization:** Designed a data-driven logistics model during COVID-19, integrating historical data with Purchase and IT departments, reducing user processing time by 10% and improving material tracking. Conducted scenario planning to evaluate alternative supply chain strategies under supply constraints.

Junior Manager-Planning and Operational Analytics — **Nov 2018 - Jun 2020**

- **Improved Plant Performance:** Implemented predictive maintenance strategies, increasing plant availability to 98.5% and reducing breakdowns by 10% annually through optimized inventory and equipment monitoring.
- **Data-Driven Decision Making:** Spearheaded analytics & reporting for Blast Furnace Operations, boosting productivity (+25%) and extending furnace life through structured Quality Circles & Suggestion Schemes.
- **Advanced Data Analytics:** Integrated & analyzed time-series operational data to enhance material injection efficiency (+18%), leveraging EDA & visualization to uncover insights and reduce operational inefficiencies by 10%.

ACADEMIC PROJECTS

- **Character-Level Text Generation Model**. — **Nov 2024 - Dec 2024**
  Built an LSTM-based text generation model using the *War and Peace* dataset, achieving a perplexity and entropy of 3.96. Optimized performance through character-level tokenization and hyperparameter tuning.
- **Emotion Detection on Tweet Data** — **Oct 2024 - Nov 2024**
  Developed emotion detection models using RoBERTa, Gemma, LLama and Qwen(using QLORA) (F1: 0.63), enabling sentiment analysis for real-time customer feedback processing.
- **Data Analysis & Recommendation System Development** — **Jul 2024 - Aug 2024**
  Designed a SentenceTransformer-based recommendation system for Netflix data, suggesting top 5 similar titles using semantic embeddings and attribute-based filtering. Performed EDA and multi-label classification for genre prediction.
- **Loan Default Prediction & Model Optimization** — **Jul 2024 - Aug 2024**
  Built an H2O GBM model (AUC: 0.84) for SBA loan default prediction on an imbalanced dataset. Optimized 60 hyperparameters and leveraged SHAP plots for model interpretability.

LEADERSHIP & ACHIEVEMENTS

- Dean's Excellence New Student Cohort Scholarship
- GATE 2018: Top 99.5 percentile in India
- Led NIT Durgapur's Music Club, increasing sponsorships by 10%
- Led cross-functional teams to implement Industry 4.0 analytics at RINL, driving predictive maintenance initiatives and upskilling 70+ technicians.