

# SHANMUKHA SARAT PONUGUPATI

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## EDUCATION

### Northeastern University, Boston, MA

May 2023

Master of Science in Data Analytics Engineering

### GVP College of Engineering, Visakhapatnam, India

Aug 2019

Bachelor of Technology in Computer Science Engineering

## TECHNICAL SKILLS

**Methodology:** SDLC, Agile, Waterfall

**Programming Languages:** R, Python, SQL, JavaScript

**IDE's:** VSCode, Jupyter Notebook, PyCharm

**Big Data Ecosystem:** Hadoop, MapReduce, Hive, Apache Spark, Pig ETL

**Tools:** SSIS, Talend, Snowflake, Dbt.

**Cloud Technologies:** AWS, Azure, GCP

**Packages:** NumPy, Pandas, Matplotlib, Scikit-learn, Seaborn, TensorFlow, Tailwind, React, Django.

**Reporting Tools:** Tableau, Power BI, SSRS, Looker

**Database:** MongoDB, MySQL

**Other Tools:** Git, MS Office

## PROFESSIONAL EXPERIENCE

### Data Scientist, Alma better.

May 2020-Apr 2021

- Led the performance evaluation of predictive models, achieving an impressive 85% accuracy on validation sets by utilizing metrics such as **Accuracy, RMSE, MAE, and ROC** curves.
- Developed and validated cutting-edge **Machine Learning** models for emotion detection in speech.
- Orchestrated the full lifecycle of model deployment using **Flask API**, successfully deploying the application on **AWS** for real-time analytics.
- Leveraged **Transfer Learning** techniques within the **TensorFlow** framework to train state-of-the-art **Deep Learning** models, significantly improving model performance and enhanced model predictive power by implementing **Data Augmentation**.
- Contributed to a substantial **reduction** in hate speech during virtual meetings by **87%**, promoting a safer and more inclusive online environment.

## PROJECTS

### Stock Return Prediction, Northeastern University

Mar 2023

- Analyzed stock performance using **Python**, achieving a nuanced understanding of market dynamics through **kernel density estimation** and comparative summary statistics.
- Synthesized a robust feature database from **FRED, Fama-French**, and additional sources, leading to a comprehensive set of predictors for stock behavior.
- Applied machine learning techniques (**Ridge, LASSO, Elastic Net, LARS, Random Forest, XGBoost**) to distill critical features, which improved model prediction accuracy by 20% over baseline measures.
- Implemented algorithm-driven models, resulting in a **15% increase in PnL**.

### Customer Revenue Prediction, Northeastern University

Feb 2022

- Led a **time series** analysis on customer data, identifying key revenue drivers that informed strategic marketing decisions and Utilized Python's **Scikit-Learn** and **seaborn** libraries to develop a predictive model, fine-tuning to a **1.71 RMSE** score, outperforming competitor benchmarks by 10%.
- Drove a **25% uplift** in marketing ROI by leveraging the 80-20 rule to optimize customer targeting, subsequently increasing the efficiency of financial service offerings.

### Sales Insight Dashboard, Tableau.

Jan 2022

- Engineered a real-time **Tableau** dashboard connected to a **MySQL** database, providing immediate sales and revenue insights that supported a **30% increase** in decision-making efficiency.
- Translated data-driven customer behavior insights into actionable marketing strategies, contributing to a **15% rise** in sales revenue over the subsequent quarter.