

# BALA SWAPNIKA GOPI

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Aspiring Data Scientist pursuing a Master's in Data Science, with strong skills in machine learning, statistical analysis, and data visualization. Proficient in Python, R, and SQL, with hands-on experience analyzing complex datasets and deriving actionable insights. Skilled in leveraging data-driven approaches to address complex challenges. Excited to apply analytical expertise and contribute to meaningful projects through a summer internship.

## Education

### University of Maryland

Master of Science - Data Science - CGPA:4.0/4.0

College Park, USA

Aug 2024 - May 2026\*

### Jawaharlal Nehru Technological University Hyderabad, College Of Engineering Jagtial

Bachelor of Technology - Electronics and Communication Engineering - CGPA:7.15/10.0

Telangana, India

Jul 2018 - Aug 2022

## Skills

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

**Machine Learning:** Clustering, Feature Extraction, Product Analytics, NLP, Generative AI

**Frameworks:** Pandas, Numpy, Scikit-learn, Pyspark, Pytorch, Seaborn, Spark SQL, Tensorflow, Matplotlib, Keras, NLTK

**Tools:** Git, VS Code, Spyder, MySQL, JIRA, Tableau, Microsoft Excel

**Platforms:** Jupyter Notebook, Apache Spark, Docker, Kubernetes, Linux, Unix, Windows, GitHub, AWS

**Soft Skills:** Problem-Solving, Team Collaboration, Business Analytics, Written and Verbal Communication Skills, Individual Contributions

**Modeling and Analysis:** Causal Inference, Hypothesis Testing, Statistical Modeling, Regression, Classification, Segmentation, Business Analysis, Cross-Validation, Random Forest, Business Intelligence, Mathematics, Statistics, Relational Databases, Data Mining, Data Analytics, Decision Trees

**Technical Knowledge:** Design and Development, Testing and Debugging, Big Data, AI Model Development

## Professional Experience

### Infor

#### Associate Software Engineer

Hyderabad, India

Apr 2022 - Aug 2024

- Designed and deployed machine learning templates on the Coleman AI platform, increasing algorithm efficiency for 15+ clients
- Implemented forecasting models for intermittent demand data, reducing error rates by 20%.
- Solved complex optimization problems using Python and PySpark, improving resource allocation strategies by 25%.
- Enhanced inventory prediction accuracy by 18%, presenting actionable insights that informed executive decision-making.

## Projects

**Facial Expression Recognition; Tech:** Python, CNN, Google FER dataset;

- Developed a deep learning model using Convolutional Neural Networks (CNNs) to classify facial expressions with an accuracy improvement of 10% on the Google FER dataset. Demonstrated real-time emotion recognition applications, enabling scalability across industries such as healthcare and customer engagement.
- Employed image preprocessing techniques, including data augmentation and hyperparameter tuning, to reduce overfitting by 15% and enhance the model's generalization capabilities.

**Credit Card Fraud Detection; Tech:** Python, SVM, Decision Tree, Logistic Regression, KNN;

- Built a predictive model for detecting fraudulent transactions, improving precision by 30% and recall by 25% on an imbalanced credit card dataset. Utilized resampling techniques like SMOTE and feature engineering to enhance class balance and model performance.
- Conducted comprehensive evaluations across 5 different machine learning algorithms for scalable fraud detection, leading to optimized model performance that safeguarded transactions from potential fraudulent activities.

**Customer Churn Prediction; Tech:** Python, Numpy, Pandas, Scipy;

- Mastered a machine learning model achieving a 92% accuracy rate in forecasting customer churn by analyzing demographic and transactional data. Applied feature engineering techniques and optimized model parameters to increase prediction efficiency by 20%.
- Delivered actionable insights that empowered the business to implement targeted customer retention strategies, reducing churn rates by 18%.

## Achievements and Volunteer Experience

- Won **silver medal** in Programming Data Structures and Algorithms using Python from NPTEL.
- Certified as a **Top Performer** in Programming with Python and Machine Learning from Internshala.
- Core Member x NSS JNTUHCEJ**, Spearheaded 10+ NSS projects, positively impacting over 1,000 beneficiaries.
- Event Organizer** for technical events at the University's 'EMBLAZON FEST' - Department of Electronics and communication engineering.