Prakash Sai Alla

+1 (413) 315-1598 — palla@umass.edu — LinkedIn — Massachusetts, USA (Can Relocate)

Analytical and results-driven Business Analytics graduate student skilled in Python, SQL, and Machine Learning, with hands-on experience in predictive modeling, data visualization, and statistical analysis to generate actionable business insights, optimize decision-making, and improve organizational efficiency.

Education

University of Massachusetts Amherst   *Sep 2024 - May 2026*
Master of Science, Business Analytics

- **Coursework:** Business Intelligence and Analytics, Statistics for Business, Business Applications with Python, Project Management, Data Science, Data Visualization, Data Management using Excel, Machine Learning.

Jawaharlal Nehru Technological University Hyderabad   *Nov 2020 - Aug 2024*
Bachelor of Technology, Artificial Intelligence and Machine Learning

- Awarded Silver Medal in NPTEL's "The Joy of Computing with Python" for exceptional performance.

Experience

PHN Technologies Pvt Ltd, Machine Learning and Data Science Intern   *Apr 2023 – Jul 2023*

- Built, trained, deployed multiple **machine learning models** including *House Price Prediction*, *Iris Classification*, and *Resume Parsing*, improving overall **prediction accuracy by 15%** and reducing error rates across datasets.
- Conducted comprehensive **Exploratory Data Analysis (EDA)** and applied **data preprocessing** techniques such as normalization, feature scaling, and encoding to enhance **model performance and reliability**.
- Researched and integrated **state-of-the-art ML algorithms and libraries** to upgrade workflow pipelines, increasing **efficiency and scalability** of data-driven projects by 10–12%.

Projects

Airbnb Demand & Availability Forecasting   *Jan 2025 – May 2025*

- Developed and optimized a **Random Forest-based forecasting model** to predict Airbnb booking likelihood, achieving **90% prediction accuracy** and an **F1-score of 0.94** on validation data.
- Engineered and analyzed over **20+ features** including distance to city center, seasonality, property type, and pricing trends to identify key factors influencing **booking demand**.

Crypto Currency Price Analysis using Artificial Intelligence   *Jan 2024 – Jul 2024*

- Designed and implemented a **machine learning system** for **real-time cryptocurrency price forecasting** using regression and time-series modeling, enhancing short-term prediction accuracy by **18%**.
- Processed and cleaned **large-scale financial datasets** (50K+ entries) through normalization and outlier detection, improving **data quality and model stability**.

Semi-Supervised Machine Learning Approach for DDoS Detection   *Sep 2023 – Dec 2023*

- Developed a **semi-supervised machine learning model** integrating both labeled and unlabeled data to detect **DDoS attacks with 94.8% accuracy**, strengthening cybersecurity analytics.
- Improved threat detection on evolving patterns by incorporating anomaly detection and adaptive learning.

Skills

Technical Skills: Python, SQL, Excel, Power BI, Tableau, R, Git, NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn
Data & Analytics: Machine Learning, Data Visualization, Data Modeling, Predictive Analytics, Statistical Analysis
Programming: C, Java, HTML, CSS, JavaScript
Soft Skills: Communication, Teamwork, Critical Thinking, Leadership, Problem Solving
Tools & Platforms: Jupyter Notebook, Visual Studio Code, Alteryx, Google Colab

Certifications

- Microsoft Certified: Azure AI Fundamentals
- Career Essentials in Generative AI – Microsoft / LinkedIn
- Career Essentials in Data Analysis – Microsoft / LinkedIn
- Machine Learning & Data Analytics – Infosys