Sai Ruthvik Reddy Mitta

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Education

Indiana University Bloomington **August 2023 - May 2025**
Master of Science in Data Science — GPA: 3.8/4 *Bloomington, USA*

Relevant Coursework: Applied Algorithms (Python), Applied Machine Learning, Intro to Statistics (R), Data Mining, Cloud Computing (AWS), Big Data Applications.

University College of Engineering, Osmania University **August 2018 - June 2022**
Bachelor of Engineering in Electronics and Communication Engineering — GPA: 9.01/10 *Hyderabad, India*

Relevant Coursework: Programming for Problem-Solving (Python), Scripting Languages (Linux, Python, Perl), Database Management, Calculus, Matlab, Linear Algebra, Computer Architecture.

Work Experience

IU Communications and Marketing **April 2024 - Present**
Data Analyst *Bloomington, IN*

- Developed **100+ automated data pipelines** in **Salesforce Marketing Cloud** to facilitate seamless communication among leadership, faculty, staff, and over **1.5 million students**.
- Increased click-through rates **(CTR)** by **46%** through data mining and exploratory data analysis (EDA) using Python and Power BI, uncovering key insights into campaign efficiency and payment prompts.
- Refined email marketing strategy by analyzing metrics such as click-through rates, open rates, unsubscribe rates, and conversion rates using SQL, leading to a **24% increase** in **open rates** through subject line optimization.

The Sparks Foundation **March 2023 - April 2023**
Data Science and Business Intelligence Intern *Remote*

- Employed SQL queries to extract and integrate data from multiple datasets from an Amazon S3 bucket, and conducted EDA to identify geographical hotspots and security challenges.
- Applied various machine learning algorithms on diverse datasets, optimized overall model performance through hyper-parameter tuning, and boosted predictive capabilities for proactive security measures.
- Utilized Python libraries and Tableau for data analysis, revealing Time Series patterns and trends, leading to a **15% reduction** in **security incidents** and a **20% increase** in **operational efficiency**.

Projects

WordSense: NLP Auto-suggestion System | ***Tech Stack:*** Python, NLP, textdistance, Matplotlib

- Developed WordSense, an NLP-powered system that improved text accuracy by **85%**, using Python's **textdistance** and collections libraries to correct spelling errors and suggest fitting words, enhancing user experience.
- Implemented advanced text analysis to analyze word frequency with Counter and Matplotlib, processing over **1 million words**, and visualizing text nuances to provide users with precise suggestions and insights.
- Enhanced autocorrect functionality with Jaccard similarity and Levenshtein distance algorithms, achieving a **90%** accuracy rate in word corrections, ensuring **clearer communication** for **users**.

Automated Mound Recognition in Indiana | ***Tech Stack:*** YOLOv5, Python, QGIS, OpenCV, Pandas

- Developed a machine learning solution using **YOLOv5** for archaeological mound detection, reducing false positives by leveraging DTM data instead of traditional DEM.
- Enhanced model performance through **data augmentation techniques**, improving precision to **57.3%** and recall to **55.9%**, leading to more accurate predictions in real-world applications.
- Streamlined object detection workflow by integrating QGIS and Python, processing over **600** images, **cutting down manual effort**, and enabling faster, **data-driven decision-making** for **heritage management**.

Skills

Languages: Python, PySpark, Scala, Java, SQL, R, Matlab
Python Libraries: SciKit-Learn, TensorFlow, OpenCV, Numpy, Pandas, Matplotlib, Beautiful Soup, NLTK, PyTorch
Tools and Platforms: AWS, Power BI, Tableau, Salesforce, Microsoft Office Suite, GIT, MySQL
Data Science Skills: Machine Learning, Deep Learning, NLP, Large Language Models, Generative AI, Data Visualization, Predictive Modeling, Data Pipelines (ETL), Statistical Modeling, Network Analysis, Database Management
Soft Skills: Effective Communication, Problem Solving, Analytical Thinking, Team Collaboration, Adaptability, Time Management