AKASH NALLAGONDA

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Education

UNIVERSITY OF CINCINNATI, CINCINNATI, OH **08 2024 – 12 2025**
Master of Engineering (Computer Science) *GPA: 4/4*
Coursework: Advanced Data Engineering ML, Database Theory, DSA

JNTUH University College of Engineering Jagtial **06 2020 – 06 2024**
Bachelor of Technology (Information Technology) *GPA: 3.4/4*

Professional Summary

Data Engineer and Machine Learning enthusiast with hands-on experience in data pipelines, cloud-based deployments, and machine learning models. Skilled in end-to-end project execution using advanced data engineering and data science tools. Proven ability to deliver data-driven solutions across diverse domains, resulting in a 20% average improvement in project efficiency. Eager to apply technical skills in data engineering roles.

Technical Skills

Data Engineering : Apache Spark, Hadoop, ETL, Airflow, Kafka, SQL, Snowflake, Databricks
Cloud Platforms : AWS (EC2, S3, Redshift), GCP (BigQuery), Azure (SQL Database, Blob Storage, Pipelines)
Programming & Scripting : Python, SQL, JavaScript
Data Science & Machine Learning : ensorFlow, Keras, scikit-learn, Pandas, NumPy, YOLO (v8, v9) for computer vision, OpenCV, NLP, ID3, Naïve Bayes, Logistic Regression, ETL processes, Data Pipeline Design, Feature Engineering, EDA.
Web Development : HTML5, CSS3, JavaScript, Angular, Bootstrap, MySQL, MongoDB
Data Visualization : Tableau, Power BI, Matplotlib

Professional Experience

TATA-Forage **06 2023 – 01 2024**
Data Analytics
- Built and deployed dashboards on Tableau and Power BI, transforming complex datasets into actionable insights that informed strategic decisions.
- Enhanced data visualization effectiveness, reducing reporting time by 25%, leading to improved decision-making speed across 3 departments.

Infrabim **12 2022 – 03 2023**
Data Science Intern
- Applied Python, NumPy, and Pandas to transform raw datasets into structured data for model building and analysis.
- Contributed to data preprocessing, feature engineering, and model development, resulting in a 20% improvement in model accuracy for prediction tasks.

Perfect eLearning **07 2021 – 04 2022**
Student Mentor – Full Stack Web Development
- Mentored over 30 aspiring developers in technologies like HTML, CSS, JavaScript, Python, and MongoDB, facilitating their mastery in full stack development.
- Streamlined students' learning processes, ensuring a 100% project completion rate.

Projects

End-to-End Data Pipeline on Azure | *Azure Data Factory, SQL Server, Azure Storage Git*
- Created an end-to-end data pipeline on Azure to aggregate and analyze student counts by country.
- Connected SQL databases with Azure Data Factory, implementing ETL processes and generating analytical reports.
- Reduced data processing costs by 30%, achieving a projected monthly cost of under $11, through optimized Azure resource usage."

Realtime Traffic Helmet Detection System | *Python, YOLOv9, OpenCV, OpenVino, Twilio Git*
- Developed a real-time system using YOLOv9 and OpenVino for helmet detection with 95% accuracy.
- Built a real-time pipeline that processed live traffic footage at 20 frames per second, automatically sending alerts through Twilio, increasing traffic monitoring efficiency by 40%.
- Designed an interface for police monitoring, allowing for real-time traffic surveillance.

Customer Churn Prediction with Logistic Regression | *Python, Logistic Regression, Pandas, Scikit-Learn Git*
- Developed a logistic regression model to predict customer churn, using Telco Customer Churn Dataset.
- Performed data preprocessing, feature engineering, and class balancing, achieving high model accuracy.
- Visualized results through confusion matrix, ROC curve, and feature importance analysis.

AI Student Monitoring System | *Python, YOLOv8, Face Recognition, Twilio Git*

- Created a behavior monitoring system that identifies abnormal activities in classrooms, such as phone use or sleeping.
- Integrated Twilio for real-time notifications and automated attendance through face recognition.
- Enabled continuous monitoring through cloud deployment.

Data Pipeline for Agricultural Price Prediction | *Python, Pandas, Scikit-Learn, AWS S3, EC2 Git*

- Built an end-to-end data pipeline to predict commodity prices using historical agricultural data.
- Automated data ingestion, processing, and model deployment on AWS, reducing data processing time by 40%.
- Enhanced prediction accuracy through feature engineering and optimized model selection.

Flask Web Application for User Management | *Flask, SQLite, AWS EC2 Git*

- Developed a Flask-based web application for user registration, login, and file upload, hosted on an AWS EC2 instance.
- Implemented secure user authentication and database integration using SQLite.
- Designed the application to process and count uploaded file contents, enhancing user engagement with personalized features.

Dockerized Python Application with Kubernetes Deployment | *Docker, Kubernetes, Python Git*

- Built and deployed a containerized Python application using Docker, with orchestration via Kubernetes for scalable management.
- Configured deployment scripts and verified container operations on Kubernetes pods.
- Enabled high availability and easy scalability through containerization and cluster deployment.

Publication

An AI-Based Student Tracking System to Analyze Student Behavior

- Developed an AI-driven tracking system to monitor and assess student activities in real-time, enabling automated behavior analysis and attendance.
- Implemented features for detecting activities like phone use and sleeping in classrooms using YOLOv8 and Face Recognition.

Responsive Design using HTML and Tailwind CSS

- Published at the IEEE-ICCCI 2024 conference, presenting responsive web design principles using HTML, Tailwind CSS.
- Demonstrated methods for improving accessibility and user experience across devices, focusing on adaptive layouts.

Certifications

IBM Data Science Professional Certificate : Coursera
Full Stack Web Development : Perfect eLearning
Facial Recognition (GUVI - Attempt to World Record) : GUVI
Joy of Computing Using Python : NPTEL
Mastering Git and GitHub : Infosys Springboard

Extracurricular Activities

State Badminton Player

- Competed in state-level tournaments, showcasing commitment, discipline, and teamwork.

Student Coordinator, Sports Event "Sizzles"

- Managed university finances for a major sports fest, demonstrating leadership and budgeting skills.

Student Volunteer, National Service Scheme (NSS)

- Engaged in community service initiatives focused on social responsibility and development. Participated in awareness programs and environmental clean-ups, enhancing skills in teamwork, empathy, and community leadership.