Saikiran Mandula

Baltimore, Maryland, USA | saikiranmandula1998@gmail.com | https://www.linkedin.com/in/saikiranmandula/ | +1 (443) 501-6257 |

WORK EXPERIENCE

NAGARRO SOFTWARE PVT. LTD | Delhi, India **April 2021 – December 2022**

Software Engineer – Full-Stack Development & Data Analytics

- Enhanced Serena Shades eCommerce platform, utilizing PHP and Magento with CI/CD pipelines, achieving a 30% reduction in deployment time; developed predictive models (scikit-learn, XGBoost) that improved sales forecasting accuracy by 25%, optimized inventory management, and leading to better decision-making and cost savings.
- Created interactive Tableau and Power BI dashboards for sales and customer analysis, boosting actionable insights by 20%, and deployed robust solutions via Docker, Kubernetes, AWS S3, and Amazon RDS, achieving a 40% gain in scalability, performance, and resource efficiency across applications, ensuring seamless user experiences and operational reliability.

ADOBE | GNI, Hyderabad, India **October 2019 – May 2021**

IOT Intern

- Designed and implemented IoT-based smart home automation systems using Raspberry Pi and Arduino, integrating sensors (DHT11, BME280, PIR) for real-time monitoring. Utilized MQTT and CoAP protocols for efficient device communication, AWS IoT Core for cloud data management, and Tableau for data visualization to enhance energy efficiency and system performance. Applied machine learning techniques to transform sensor data into actionable insights for improved automation.

SMARTBRIDGE in collaboration with IBM | Hyderabad, India **May 2019 – August 2019**

Machine Learning Intern

- Developed and optimized data pipelines using Python, SQL, and ML frameworks (TensorFlow, Scikit-Learn), boosting data processing efficiency by 30%, while gaining expertise in data preprocessing, feature engineering, and cloud-based model deployment.
- Conducted comprehensive EDA and feature engineering, increasing actionable business insights by 25%; collaborated on the development of an end-to-end real estate application during a hackathon, incorporating machine learning to predict property values and analyze market trends, enhancing prediction accuracy by 20%.

EDUCATION

University of Maryland Baltimore County, USA **January 2023 – December 2024**

Master of Science in Data Science **GPA**: 3.96/4.0

Guru Nanak University, Hyderabad, India **June 2017 – May 2021**

Bachelor of Engineering in Electronics and Communications **GPA**: 8.2/10.0

TECHNICAL SKILLS

Programming Languages: Python, Java, JavaScript, PHP, HTML, CSS

Cloud & DevOps: AWS (Elastic Beanstalk, CodePipeline), GCP, Docker, Git, GitHub, Bitbucket, JIRA, Confluence

Machine Learning & Deep Learning: TensorFlow, PyTorch, Keras, Scikit-Learn, MLflow, DVC, BentoML, Transformers, Generative AI, LLM

Data Science & Analysis: Pandas, NumPy, seaborn, matplotlib, Power BI, Tableau, Predictive Modeling, A/B Testing, Statsmodels

Natural Language Processing: Conversational AI, LSTM, RNN (GRU, Bi-directional), Encoder-Decoder Models, LangChain

Big Data & Data Processing: PySpark, Hadoop, Hive, ETL Processes, MySQL, PostgreSQL, MongoDB

PROJECTS

Medical Image Classification Using Transfer Learning **Demo:** streamlit recording.mp4 - Google Drive

- Developed a medical image classification model using DenseNet with transfer learning on a 2 GB dataset (5,863 images), addressing class imbalance with 2,534 augmented samples and achieving 92% accuracy on unseen test data. Evaluated with metrics like recall and F1 score, optimized through selective layer freezing and unique augmentations.
- Deployed an interactive Streamlit application for the DenseNet-based model, showcasing advanced transfer learning techniques and enabling real-time user input processing and model inference, while significantly enhancing user experience and interaction through an intuitive interface.

TriClass-Lung-A-CT-Based-Classification-Model-for-Lung-Health-Assessment | Demo: GitHub - saikiran888/TriClass-Lung-A-CT-Based-Classification-Model-for-Lung-Health-Assessment

- Developed and optimized a lung cancer classification model using CNN architecture (TensorFlow/Keras), achieving 99.43% accuracy on training data and 96.82% accuracy on the test set, with a significant reduction in test loss (0.10) through data augmentation and transfer learning.
- Deployed the model on AWS Elastic Beanstalk using AWS Code Pipeline for continuous integration and delivery, ensuring scalability and real-time predictions. Additionally, built and deployed an interactive Streamlit app that allows users to upload CT scan images for instant classification of lung cancer stages (normal, benign, malignant), significantly enhancing user engagement through real-time feedback and an intuitive interface.

Chat With Multiple PDF Documents | Demo: https://chatwithpdfsllm.streamlit.app/

- Developed an application that integrates Google Gemini Pro and Langchain to enable natural language queries over multiple PDF documents, utilizing vector embeddings for efficient content retrieval.
- Implemented a Streamlit interface for PDF upload, text extraction, and interactive querying with a conversational AI model, improving document analysis efficiency by 75%.

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