Vinay Babu Gorantla

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Dynamic Machine Learning Engineer / MLOps Engineer with a proven track record in developing, deploying, and scaling machine learning models. Proficient in leveraging TensorFlow, Keras, and advanced machine learning techniques to build end-to-end predictive models. Adept at deploying models using Docker, Flask API, Stream lit, and integrating MLOps practices. Experienced in applying supervised and unsupervised techniques, statistical analysis, and natural language processing (NLP) tasks to solve complex business problems. Seeking opportunities to contribute my expertise to innovative data-driven solutions.

Experience Summary:

- Skilled in end-to-end machine learning pipeline development, from data preprocessing, feature engineering, model training, and evaluation to deployment using Flask API, Streamlit, and cloud-based MLOps frameworks.
- Proficient in modular programming using Python to build maintainable and reusable code structures for data preprocessing, model training, and deployment.
- Expertise in implementing supervised techniques such as regression, decision trees, random forests, support vector machines, and unsupervised techniques including clustering and dimensionality reduction.
- Utilized Docker for containerizing machine learning models and automating deployment processes, ensuring scalability and ease of monitoring.
- Deployed deep learning models using Keras and TensorFlow for time-series forecasting, classification, and NLP tasks, with a focus on artificial neural networks (ANNs), RNNs, LSTMs, and transformers.
- Performed comprehensive statistical analysis, including hypothesis testing, correlation analysis, and feature importance, to guide model development and optimization.
- Hands-on experience with NLP tasks such as text classification, sentiment analysis, and entity recognition, utilizing libraries like NLTK and spaCy.
- Built interactive Streamlit applications for model visualization and predictions, allowing stakeholders to interact with machine learning solutions.
- Integrated MLOps practices by automating the model training and deployment lifecycle, leveraging tools like Docker and CI/CD pipelines.
- Strong focus on model interpretability, using techniques such as SHAP and LIME to explain model predictions to non-technical stakeholders.

Previous Employment History:

Data Support Officer (Data Scientist) | Greater London Authority, London, United Kingdom

| August 2023 to July 2024 (Contract)

- Developed and deployed machine learning models for residential application analysis, focusing on forecasting and trend prediction using TensorFlow and Keras.
- Integrated Flask APIs to serve real-time predictions to web-based applications, streamlining the delivery of insights across the organization.
- Built Streamlit dashboards to allow interactive model exploration, giving stakeholders a dynamic way to visualize development pipeline performance.
- Implemented statistical analysis techniques such as regression and hypothesis testing to uncover insights that informed urban development strategies.
- Collaborated with cross-functional teams to deploy machine learning models on cloud environments using Docker for containerization, ensuring seamless integration and scalability.

Data Science Intern | Brains Nest, London, United Kingdom | June 2022 to August 2022 (3 Months Intern)

- Employed advanced Deep Learning techniques, including RNN, LSTM, and GRU architectures, to enhance predictive models across diverse domains:
    - Sales Prediction: Developed and deployed deep learning models using Python, Keras, TensorFlow, and Docker to forecast sales trends accurately. Leveraged historical sales data and external factors to optimize predictions, contributing to improved revenue forecasts and operational planning. Deployed models using Flask API for real-time predictions.
    - Customer Footfall Prediction: Utilized deep learning models on AWS SageMaker and Docker to analyze historical footfall data and predict customer traffic patterns. This enabled precise staffing adjustments, enhancing customer service efficiency and resource allocation strategies.
    - Workforce Prediction: Applied deep learning techniques using TensorFlow, Flask API, and historical staffing data to forecast workforce requirements. Integrated MLOps practices to optimize staffing levels, ensuring adequate resource allocation and operational efficiency.
    - Statistical Analysis and Hypothesis Testing: Conducted comprehensive statistical analyses and hypothesis tests using Python to derive actionable insights into customer behaviour and operational performance. This facilitated data-driven decision-making processes and strategic improvements.
    - Regression Analysis: Implemented regression analysis techniques using Python and Streamlit to identify key variables influencing business metrics. Analysed correlations and patterns in data to support strategic initiatives and optimize business processes.
- Collaborated with cross-functional teams to integrate deep learning solutions into existing frameworks using Docker and CI/CD pipelines, ensuring seamless deployment and effective utilization of predictive models.
- Contributed to the enhancement of product offerings and customer satisfaction by leveraging NLP techniques and machine learning algorithms to analyze and classify customer feedback, extracting actionable insights for product improvements and marketing strategies.

Data Analyst | WIPRO Technologies ltd, Bangalore, India | November 2018 to January 2022

- Led the analysis of infrastructure monitoring alerts, identifying patterns and root causes of false alerts using Python, Regression Analysis, Statistics, and Hypothesis Testing.
- Implemented data-driven solutions to mitigate false alerts, achieving a substantial reduction from 80,000 to fewer than 1,000 per month within two quarters.
- Evaluated and optimized daily operational processes, resulting in significant cost reductions and improved efficiency across departments.
- Served as the Transformation Program Engineer for offshore operations of a prominent retail Middle-Eastern Commercial Bank, driving operational efficiency improvements through strategic initiatives.
- Collaborated with cross-functional teams to identify and resolve process bottlenecks, streamlining workflows and enhancing overall operational effectiveness.
- Successfully spearheaded the analysis of infrastructure alerts, significantly reducing false alerts and enhancing operational efficiency.
- Implemented strategic transformation initiatives for offshore operations of a leading retail Middle-Eastern Commercial Bank, resulting in enhanced operational effectiveness and substantial cost savings.

Software Engineer | HCL Technologies, Chennai, India | June 2016 to November 2018

- Orchestrated IT Service Management, including Incident, Change, Problem, and Service Disruption Management, utilizing the BMC Remedy Tool.
- Spearheaded the incident management process, conducting thorough analysis, resolution, and root cause analysis, resulting in reduced incident frequency and enhanced application stability.
- Executed change and release management tasks, actively participating in deployments and testing across various environments.
- Demonstrated exceptional proficiency in SQL queries, utilizing them to analyze and troubleshoot customer issues raised via the BMC Remedy incident tool.
- Facilitated knowledge transfer sessions for the application, ensuring seamless onboarding of new team members.

Educational Qualifications:

MSc Data Science | University of East London | January 2022 to May 2023

B. Tech Computer Science and Engineering | VIGNAN's University | August 2010 to April 2014

Technical Skills Summary:

Data Preparation and Management: Data Cleaning and Preprocessing, Data Wrangling, SQL for Data Science, Pandas, NumPy.
Data Exploration and Visualization: Exploratory Data Analysis, Data Visualizations, Matplotlib, Seaborn, Power BI.
Statistical Analysis and Modelling: Hypothesis Testing**,** Statistics**,** Regression Analysis**,** Time-Series Analysis.
Machine Learning: Machine Learning Algorithms, Feature Engineering, Scikit-learn.
Deep Learning: TensorFlow**,** Keras**,** Artificial Neural Networks**,** Convolutional Neural Networks**,** Recurrent Neural Networks (RNN, LSTM, GRU)**,** Transformers**,** Encoder and Decoder architectures.
Natural Language Processing: NLTK**,** Text Vectorization**,** Word Embeddings.
Programming: Python**,** PySpark**,** R Programming**,** SQL, T-SQL, DAX, Linux, Git, Docker, Kubernetes.
Azure Cloud: ML Studio**,** Data Factory**,** Synapse Analytics**,** Databricks**,** Data Lake Storage Gen2.

Disclaimer:

"I, Vinay Babu Gorantla, certify the accuracy of the information provided in this resume to the best of my knowledge. I am committed to ongoing learning and professional growth as a data scientist.