VARUN WOODI RAGHAVENDRA

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SUMMARY

Experienced Machine Learning and AI professional with over 3 years in designing and deploying AI solutions, specializing in Large Language Models (LLMs) and deep learning systems. Proven track record in fine-tuning multimodal LLMs, deploying AI-powered products in healthcare, and leading end-to-end model development from research to production. Adept at leveraging cloud infrastructure, MLOps, and data-driven insights to solve complex challenges. Seeking to contribute to Oracle Health's cutting-edge AI initiatives by delivering innovative, scalable Generative AI solutions for healthcare.

TECHNICAL SKILLS

Languages	Python, R, MATLAB.
Frameworks	TensorFlow, PyTorch, LangChain, Apache Spark, Airflow, Flask.
Libraries	OpenCV, Pandas, NumPy, Scikit-learn, Seaborn, Hugging Face, Chainlit, Streamlit, Gradio, Deepspeed.
Machine Learning	Linear & Logistic Regression, Boosting, Bagging, SVM, Naive Bayes, PCA, Forecasting.
Deep Learning.	ANN, CNN, RNN, LSTM, Encoder-Decoder, Transformers, Computer vision, Natural Language Processing.
LLMs	Fine-tuning, Prompt Engineering, Retrieval Augmented Generation (RAG), Multimodal Learning.
MLOps	CI/CD, Docker, MLflow, Kubeflow, Model Monitoring, Version Control (Git)
Cloud Platforms	AWS (SageMaker, S3, EC2, ECR, Elastic Beanstalk)
Database	MySQL, PostgreSQL, MongoDB.
Mathematics	Statistics & Probability, Calculus, Linear Algebra, A/B testing, Hypothesis Testing.
Visualisation Tools	Power BI,Tableau.

WORK EXPERIENCE

INFOSYS Ltd, Bangalore, India   **MAY 2021-AUG 2022**
SYSTEMS ENGINEER
- Conducted advanced time series analysis and optimization experiments, resulting in a **15% improvement** in forecast accuracy.
- Played a pivotal role in enhancing medical device safety through real-time performance analysis using AI-powered Python scripts, improving testing **efficiency by 30%.**
- Promoted adoption of ML and AI technologies across the team, mentoring colleagues and integrating AI techniques into business processes.

VARUN ENTERPRISES, Bangalore, India   **SEP 2020-APR 2021**
DATA SCIENTIST
- Led the design, development, and **deployment of CNN-based models** for detecting manufacturing anomalies, **increasing revenue by 12%**.
- Successfully deployed research-focused DL models **using Flask**, reducing **false positive detection by 50%**, emphasizing practical deployment and scalability.

HCL TECHNOLOGIES, Bangalore, India   **DEC 2018-DEC 2019**
SOFTWARE ENGINEER
- Maintained and optimized critical trading applications **with a 95% issue resolution rate** within 24 hours, ensuring operational efficiency.
- Developed SQL-based solutions that decreased system **downtime by 20%**, improving overall system availability and client satisfaction.

ACADEMIC PROJECTS

Multimodal LLM-powered Medical Image Analysis   **JAN 2024 – AUG 2024**
- Led the development of an AI-driven diagnostic tool using **Multimodal Large Language Models (LLMs),** transitioning from research to a scalable healthcare product.
- **Fine-tuned state-of-the-art models like IDEFICS2, LLaVA 1.5 7B, and LLaVA-Med** to enhance **brain MRI image analysis**, improving diagnostic accuracy by automating complex workflows.
- Designed and implemented an intuitive **Gradio interface** for seamless interaction with medical professionals, bridging the gap between cutting-edge AI research and practical healthcare applications.

Data Processing and Storage Pipeline for E-commerce data   **FEB2024 – MAY 2024**
- Implemented data sourcing using Python and set up **Apache Kafka** for real-time data streaming of e-commerce behavior data. Managed Kafka producer and consumer processes for efficient data flow.
- Utilized **Apache Spark** for data transformation and analysis. Processed real-time data to identify key insights such as top category-brand combinations, user engagement, and price sensitivity, storing results in CSV and ORC formats.
- Developed interactive **Tableau dashboards** for visualizing sales data, user interactions, and category price trends. Created scatterplots, pie charts, and bar charts to inform strategic decisions in pricing and inventory management.

EDUCATION

UNIVERSITY OF MASSACHUSETTS, DARTMOUTH   **AUG 2024**
Master's in Data Science   GPA3.97/4.0

NITTE MEENAKSHI INSTITUTE OF TECHNOLOGY, Bangalore, India   **JULY 2018**
Bachelor of Engineering in Electronics and Communication engineering   GPA: 3.1/4.0