ADARSH BALAN

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CAREER SUMMARY

Data Science and AI-ML professional with over 4 years of experience in solving business problems in Finance, Consulting, Oil and Petroleum, Healthcare Industry, and Academia. Adept in liaising with development teams, vendors, users, and executives to develop actionable insights for sustainable business and organizational growth.

EDUCATION

Advanced Management Programme in Business Analytics (AMPBA), Indian School of Business 2024

Bachelor in Commerce, Accounting, Panjab University, GCCBA Chandigarh 2019

CMA Intermediate, Institute of Cost Accountants of India 2018
Awarded the Certificate of Merit Award for completing all subjects in single sitting.

SKILLS

Programming Languages	Python, R, SQL, Bash
Cloud	Azure, GCP, AWS
Machine Learning	Supervised/Unsupervised, Regression, Classification, Clustering, Time Series, DL
NLP	Regular Expressions, NLTK, Spacy, Word2Vec, Transformers, Sentiment Analysis
MLOps	Mage AI, LangChain, Azure AutoML, Docker, Kubernetes, TensorFlow, PyTorch
Data Engineering	PostgreSQL, Big Query, Data Lake, PySpark
BI Tools	Tableau, Power BI, R Shiny, Looker Studio

EXPERIENCE

Research Associate with Prof. Karthik Balakrishnan Oct 2023 - Present
Indian School of Business, Hyderabad

- Led multiple machine learning projects focused on the accounting domain, leveraging advanced algorithms and statistical models to uncover actionable insights and improve financial decision-making processes.
- Utilized natural language processing (NLP) techniques to scrape, preprocess, and analyze vast amounts of unstructured textual data, transforming it into structured data sets for further analysis.
- Created an AI Simulation game where students, divided into groups representing companies, took on roles as functional departments. They made strategic decisions based on scenarios and market research, utilizing an AI assistant powered by a Retrieval-Augmented Generation (RAG) system to enhance decision-making and simulate real-world business dynamics.
- Finetuned GPT-4o for financial sentiment analysis using the TRC2 dataset, comparing its performance with FinBERT on the Financial PhraseBank test set to enhance the model's accuracy in interpreting financial news and communications
- Authored detailed case studies on cost accounting practices within the healthcare sector, specifically evaluating the effectiveness of the PMJAY Ayushman Bharat Insurance Scheme, providing data-driven recommendations for policy improvements.

LLM Response Evaluation Expert Jul 2024 - Present
Uber Scaled Solutions

- Conducted large language model (LLM) response evaluations to enhance the accuracy and reliability of AI-driven solutions.
- Evaluated Python and SQL code to ensure optimal performance and compliance with evaluation guidelines.

Project Associate, Bharti Institute of Public Policy (BIPP) Jan 2023 - Sep 2023
Indian School of Business, Mohali

- Provided financial management and administrative support for BIPP grants/projects, including expense tracking and record maintenance, PR handling, and contract drafting.
- Served as a Scrum Master for the India Data Portal project, maintaining a comprehensive planner for the complete end-to-end management of SKUs.
- Created dynamic data visualizations and Tableau dashboards for policy-related datasets, web scraping, and data cleaning.

Senior Executive - Cost Accountant Nov 2021 - Sep 2022
Max Healthcare Institute Limited, Mohali

- Implemented Costing Module-NAV Software, processed monthly closing activities, prepared Patients Based Costing Reports, generated MIS Reports, and coordinated with cost auditor for compliance.

TRAINING EXPERIENCE

Industrial Trainee, Indian Oil Corporation Limited Sep 2020 - Aug 2021
Cost Assistant, Khurana & Co. Cost Accountants Apr 2019 - Mar 2020

SELECTED PROJECTS

- **Anomaly Detection in Business Processes using Generative AI.** Led the development of an application aimed at generating actionable insights in expansive business datasets to elevate financial governance. Managed all phases, from liaising with sponsors and faculty mentors, high-level design (HLD) and low-level design (LLD), complete code implementation, large language model (LLM) and agent identification, and testing, to data orchestration and deployment. The result was an AI-powered solution that enhances anomaly detection in business processes using generative AI techniques.
- **AI-Powered Personal Browser History Analysis.** Designed and implemented an AI-powered application for personal browser history analysis. Utilizing Python, LIDA, and OpenAI GPT models, categorized browsing data and offered insights through AI-driven visualizations. The application features an interactive chatbot for custom queries, providing users with a comprehensive analysis of their browsing behavior.
- **Forecasting Electricity Energy Consumption using Azure Auto ML.** Developed a forecasting model using Azure Auto ML to predict electricity consumption in industrial and commercial sectors. The model achieved less than 2% deviation and was deployed as an application on Streamlit. This project demonstrated the practical application of machine learning in energy management and forecasting.
- **Image Segmentation on Pathology Images using UNet with ResNet.** Finetuned a UNet model with ResNet as the backbone for image segmentation on pathology images. The model was trained with mask images where nuclei were marked, achieving a best validation loss of 10%. This work contributed to advancements in medical image analysis and segmentation.

CERTIFICATIONS

- Consensys: Blockchain: Foundations and Use Cases
- USF Muma College of Business: The Impact of Fintech: AI, Blockchain, Cryptocurrency, and the Future of Business
- DeepLearning.AI: LangChain for LLM Application Development
- Google: Introduction to Large Language Models

COMPETITIONS

- MachineHack: Ranked 3rd for Criminal Incident Rate Forecasting Hackathon.
- Trilytics'24: Ranked 70th out of 9,292 teams for Round 1 of Analytics Case Competition.