# SARTHAK VAJPAYEE

+14693479198 | sarthak.vajpayee05@gmail.com | Dallas, TX, USA | linkedin.com/in/sarthak-vajpayee/

## EDUCATION

**University of Texas - Dallas**                                                                               **08/2022 - 05/2024**
*Master's, Business Analytics*                                                                                        *GPA: 3.8*

**Dr. A.P.J. Abdul Kalam Technical University**                                                    **08/2014 - 07/2018**
*Bachelor's, Electrical Engineering*

## PROFESSIONAL EXPERIENCE

**University of Texas - Dallas**                                                                           **Richardson, TX, USA**
*Data Science Research Assistant*                                                                               *01/2024 - 05/2024*
- Reviewed 80+ studies on prompt engineering to optimize LLMs, quantifying the impact of various prompt techniques on efficacy and responsiveness, and leveraging ChromaDB database to conduct data analysis for deeper insights.
- Employed techniques such as LoRA, QLoRA, and IA3 in Python using Huggingface to optimize several Transformers, including fine-tuning Llama, Mistral, and BERT for a classification task, further enhancing their performance.
- Developed transformers-based models for semantic search, improving accuracy and retrieval speed across large datasets.

**AppSteer**                                                                                                            **Frisco, TX, USA**
*Data Scientist (Full Time CPT)*                                                                                *05/2023 - 12/2023*
- Streamlined development of prompt engineering for LLMs, reducing error rates through collaboration with cross-functional teams utilizing Python, Langchain, Huggingface, FAISS vector database, and PyTorch.
- Developed automation tools with Docker, Flask and Python and OpenAI APIs on Azure, integrating PySpark for efficient dataflow, and PostgreSQL, reducing app development and deployment time from 4 days to under 2 minutes.
- Orchestrated over 50 cloud ETL deployments, enhancing CI/CD workflows with Git version control, Jenkins, Ansible, Kubernetes, Prometheus, Grafana to boost deployment rate by 20%.
- Led REST API development with Pydantic, FastAPI, and Python, achieving faster feature delivery in six weeks.

**Ernst & Young**                                                                                        **Bengaluru, Karnataka, India**
*Staff Data Scientist*                                                                                             *12/2021 - 07/2022*
- Enhanced demand forecasting for a top FMCG company using XGBoost and Regression models, achieving 8% MAPE.
- Utilized Python, Pandas, and Numpy for data manipulation and Airflow for ETL, reducing data processing times by 40%.
- Engineered a Gen-2 predictive system, integrating ARIMA and XGBoost in PySpark for data modeling, achieving 92% accuracy in 15 days and redefining benchmarks for international market analytics.
- Identified critical demand trends through time-series analysis and A/B testing, resulting in a 15% increase in forecast accuracy, leveraging Tableau dashboards for data visualization.
- Employed Azure Databricks for data processing and Azure ML for feature engineering and data mining, enhancing sales forecast models by 20% and yielding $1.1M in annual cost savings.

**Scaler**                                                                                                       **Hyderabad, Telangana, India**
*Data Science Engineer*                                                                                          *09/2018 - 12/2021*
- Architected a robust LMS and online coding platform using Docker for containerization, FastAPI, Kubernetes, and AWS, integrating an NLP-based ticketing system with Python, boosting resolution efficiency by 25%.
- Developed an end-to-end plagiarism detection tool with Doc2Vec, Fast-Text and BERT using Python and Tensorflow.
- Engineered and optimized CI/CD workflows utilizing configuration management tools such as Ansible, integrated with Jenkins, leading to a 20% rise in deployment frequency and a 30% decrease in lead time.

## PROJECTS EXPERIENCE

**CI/CD for Credit Risk Prediction**
- Developed and deployed an ETL pipeline and Streamlit app for Credit Risk Analysis using Python, Decision Trees, PostgreSQL, Jenkins, Docker, enabling 20% faster credit decisions and improved efficiency through CI/CD.

## SKILLS

**Skills:** Python, MySQL, MongoDB, Tensorflow, Pytorch, Computer Vision, AWS, Google Cloud Platform, Tableau, Hadoop, Scala, Kubernetes, Docker, MATLAB, JavaScript, c, SAS, Git, Business Analytics, SQL, Hadoop, Confluence, CI/CD, Ansible, Docker, AWS, Azure, Snowflake, JIRA, Airflow, Databricks, ChromaDB, Excel, Kafka, Spark, NumPy, Decision Trees, Hive, Pandas, Natural Language Processing (NLP), Power BI, Matplotlib, Linux/Unix, Machine Learning, Advance Statistics, clustering, cloud computing, deep learning, Keras, Big Data Technologies