SUMIT DE









TECHNICAL SKILLS

- Languages and Tools: Python, Keras, Docker, SQL, Linux, Git, Postman, PyTorch, Kubernetes, TensorFlow, GenAI, NLP.
- Cloud Tools: S3 Bucket, AWS CloudFormation, Delta Lake, ADLS Gen2, Spark, PySpark, Apache Kafka, Databricks.
- Statistical Techniques: Hypothesis Testing, Regression, Decision Trees, Clustering, Naïve Bayes, A/B testing, ROC curve.
- Data Science Libraries: Pandas, NumPy, Matplotlib, Seaborn, SciPy, Scikit-learn, Beautiful Soup.

PROFESSIONAL EXPERIENCE

Eaton Corporation, Pittsburgh, PA: Data Science Intern

May 2023 - Aug 2023

- Applied time series analysis and feature extraction techniques to detect cavitation in pumps, contributing to the Edge Intelligence team's business goals.
- Conducted in-depth analysis of waveform data, performing feature engineering in both the time domain and frequency domain, and utilized statistical methods to assess their relevance and significance.
- Developed and designed ML models for cavitation detection, to improve pump performance and efficiency. Reported results to stakeholders for further decision-making after performance evaluation.

University of Texas at Arlington, TX: Graduate Teaching Assistant

September 2023 - May 2024

- Conducted in-depth analysis of organizational performance data to extract valuable insights and create comprehensive reports for the Department of Management, effectively managing tasks in a fast-paced environment.
- Applied statistical models to perform an exam audit, collating student performance data across multiple. Effectively communicated these statistics to the management, enabling data-driven decision-making for future strategies and initiatives.

Tata Consultancy Services (TCS), Bengaluru, India: Software Developer

Apr 2021 - Jul 2022

- Developed and maintained 5G communication software, focusing on HTTP request handling and JSON response analysis for internode communication in the 5G core, ensuring 3GPP compliance.
- Collaborated seamlessly within team as well as cross functional groups, utilizing Python for coding tasks and employing GitLab for efficient code versioning, synchronization, and collaboration within the master branch.

Ojman Technologies, Bengaluru, India: System Software Developer

Aug 2020 – Apr 2021

- Implemented and optimized real-time data processing on embedded systems, utilizing C programming for efficient communication between components.
- Analyzed model performance and iteratively improved algorithms based on output results, demonstrating strong problem-solving skills and the ability to optimize AI solutions for hardware constraints.

Savari Inc., Bengaluru, India: Software Developer Intern

May 2019 - Aug 2019

May 2024

GPA: 3.6 / 4.0

- Worked on V2X stack which supports both DSRC and CV2X for autonomous vehicles, showcasing competitive communication solutions
- Proficient in using the Valgrind tool to examine the program for memory leaks and employing the GDB tool to identify and troubleshoot program crashes.

EDUCATION

Master of Science in Information Systems University of Texas at Arlington, TX Maverick Advantage Distinction Award. Bachelors in Electronics and Communication

Bachelors in Electronics and CommunicationJuly 2020PES University, Bangalore, IndiaGPA: 3.0 / 4.0

DATA SCIENCE PROJECTS

Real-Time Attendance System using Face Recognition, Coursework Project

• Developed prototype model of attendance system using face recognition. Made use of deep learning (CNN) and computer vision for face detection and SVM for face classification. Implemented triplet loss in a face recognition system to ensure embeddings of the same person are closer than those of different people, enhancing identification accuracy. Achieved accuracy of 97.31% with dataset of 2100 training images and 900 test images.

Airport Analyzer, Business Symposium

• Leveraged Selenium for web scraping, NLP for text processing, LangChain for optimized text chunking, and LLM for data-driven insights, enabling airport authorities to make data-driven decisions based on user reviews. Created a user interface using Streamlit. Implemented a RAG approach to optimize costs by 70%. Secured 2nd place among 50+ competing teams across North Texas.

Formula 1 Data Engineering, Personal Project

• Developed an ETL architecture for big data analysis using PySpark on Azure Databricks to ingest and transform data from the Ergast APIs in various formats (CSV, JSON) into Parquet files. Automated ingestion process by creating workflow notebook to ingest all 8 files. Utilized ADLS Gen2 for data storage in raw, processed, and presentation layers, and performed analysis using SQL on the data lake for efficient insights. Created data pipeline for rapid analysis.

LEADERSHIP EXPERIENCE

- **President of Association of Information Technology Professionals:** hosted and headed over 20 career events, workshops and networked with 60+ industry professionals.
- Honeywell Leadership Challenge Academy in association with NASA: selected globally based on record of academic excellence and community service to take part in workshops related to science and leadership.