KALAICHARAN M

Phone :6379061790 | Email : kalaicharan31@gmail.com | Location: Salem,TamilNadu
LinkedIn: linkedin.com/in/kalaicharan-m31| GitHub: github.com/Kalaicharan-M

PROFILE

AI & Data Science Engineer | Python Developer | Generative AI Specialist

- Results-driven AI & Data Science Engineer specializing in Machine Learning, Generative AI (RAG, LangChain), and AWS Cloud. Proven track record in building high-accuracy ML models (92%), deploying AI-powered legal retrieval systems, and creating data-driven dashboards (18% attrition reduction). Certified in AWS, Python (PCAP), and Cisco Networking. Passionate about solving business problems with scalable AI solutions.

EDUCATION

B.Tech(AI&DS) - Sri Krishna College Of Technology, Coimbatore | CGPA : 7

HSC - Jaivins Academy | 78%

SSLC - Vetri Vikaas Public School | 65%

SKILLS

Languages : Python (Pandas, NumPy, OOP), SQL (Joins, Subqueries)

ML/DL: TensorFlow, Keras, Scikit-learn, XGBoost, CNN, LSTM, Matplotlib, Model Evaluation.

Generative AI & LLMs : GPT-4o, OpenAI APIs, LangChain, RAG, Prompt Engineering, Embeddings, FAISS

Analytics : Power BI, DAX, Power Query, Drill-through, Excel (Pivot Tables, Functions)

Tools : Jupyter Notebook, VS Code, PyCharm, Git, MySQL, AWS (EC2, S3), Flask (API), Streamlit

Concepts: Feature Engineering, Time-Series Forecasting, Model Deployment,Semantic Search, RAG Pipelines.

PROJECTS

LEGAL JUDGEMENT RETRIEVAL USING RAG + LANGCHAIN | GITHUB

- Developed a Retrieval-Augmented Generation (RAG) system using LangChain and FAISS to extract case insights from unstructured Indian Supreme Court judgments in CSV format.
- Cleaned and chunked raw legal texts, generated vector embeddings, and enabled semantic search for complex legal queries using OpenAI API.
- Demonstrated performance improvement through comparison between raw and cleaned datasets, enabling accurate retrieval for real legal prompts.

DEMAND FORECASTING - MACHINE LEARNING | GITHUB

- Developed an XGBoost-based time-series model to predict sales demand using historical data, reducing forecast error by 22%.
- Engineered 15+ temporal features (lag variables, rolling averages, holiday indicators) and Fourier transforms to capture seasonality (RMSE: 1.2).
- Optimized hyperparameters using GridSearchCV over 50+ combinations with 5-fold time-series cross-validation to avoid overfitting.

HR ANALYTICS DASHBOARD FOR EMPLOYEE ATTRITION | GITHUB

- Designed an **interactive executive dashboard** analyzing attrition drivers across **department, age band, salary tier, and education level**, enabling leadership to reduce attrition by **18%**
- Utilized **Power Query** for data transformation and **DAX** for KPI calculations.
- Integrated **slicers**, **charts**, and **drill-throughs** to extract actionable business insights.

PHISHING DETECTION AND CLASSIFICATION - DEEP LEARNING | GITHUB

- Achieved **92%** accuracy in classifying malicious URLs using **hybrid deep learning** model.
- Implemented dropout and batch normalization to prevent **overfitting .**
- Visualized results using **confusion matrices** and ROC curves .
- Reduced false positives by 15% using precision-recall curve optimization.

PROFESSIONAL EXPERIENCE

Data Science & GenAI Intern – Palle Technologies (APRIL 2025 – Present)

- Built ML/DL models for classification using Python and TensorFlow.
- Developed phishing detection and RAG-based legal retrieval system using LangChain, FAISS.
- Created dashboards in Power BI for HR and project insights.

Cloud & AWS Intern – Quizaro (Oct 2023 – Dec 2023)

- Deployed scalable Flask-based apps on AWS EC2 and integrated S3 storage.
- Gained practical knowledge of cloud architecture and deployment patterns.

CERTIFICATIONS

- Cisco Certified – CCNA Series (2024)
- PCAP – Programming Essentials in Python
- AWS Cloud Computing – Specialization Certificate
- Cybersecurity Fundamentals – Cisco Networking Academy