Mohammed Shaaz Sharafuddin

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EDUCATION

Christ College Engineering

B.E. Electronics and Communication Engineering ; GPA: 8.06 **June 2023 - August 2027**

Kerala, India

Machine Learning (MINOR)

SKILLS SUMMARY

- **Languages**: Python, JavaScript, R, C, HTML, CSS, SQL
- **Frameworks**: React, Next.js, FastAPI, Scikit-learn, Pandas, NumPy, Matplotlib
- **Tools**: GitHub, VS Code, Firebase, Power BI, Microsoft Excel, Arduino IDE, Figma
- **Data Science & ML**: SHAP, XGBoost, Supervised Learning, Model Evaluation, Data Visualization, EDA
- **Soft Skills**: Team collaboration, Adaptability, Excellent communication

WORK EXPERIENCE

Data Analytics & Machine Learning Intern | SHELL | LINK **July 25 - August 2025**

- Performed exploratory data analysis and preprocessing on carbon emissions datasets using Pandas and NumPy to ensure high-quality inputs for modeling
- Developed and evaluated predictive machine learning models in Python, generating actionable insights into emissions patterns and trends.

Data Analytics Intern | INFOSYS SPRINGBOARD | LINK **October 25 - December 2025**

- Analyzed 6.7M+ flight records spanning 16 years to identify temporal, geographic, and operational delay patterns, uncovering key drivers such as weather (35%), carrier operations (40%), and delay propagation.
- Engineered 13+ analytical features and delivered airport-, route-, and season-level insights, quantifying 7.4× higher winter cancellations, 2.8× holiday impact, and establishing baseline metrics to support predictive and operational planning.

PROJECTS

MedPrompt+– AI Health Assistant (Next.js, FastAPI, XGBoost) | LINK **December 24 - February 2025**

- Designed and deployed an AI-driven health assessment platform using FastAPI, Scikit-learn/XGBoost, and LLM APIs, enabling real-time medical risk prediction, document analysis, and conversational health support.
- Built an end-to-end ML and RAG pipeline to parse PDFs/images, extract key medical vitals (BMI, glucose, BP), and generate summaries, improving data usability and insight delivery across user workflows.
- Developed a responsive Next.js + Tailwind dashboard with interactive health visualizations, dark/light themes.

AutoFlow– Visual Workflow Automation Platform (Next.js, FastAPI)| LINK **August 25 – October 2025**

- Integrated 5+ AI/ML models (GPT, Claude, Llama, Gemini) into a drag-and-drop SaaS platform, improving workflow flexibility by 40%. Automated document parsing and NLP, reducing manual effort by 70%.
- Implemented a scalable backend with JWT-based authentication, role-based access control, and real-time workflow execution, supporting integrations with multiple LLMs (GPT-4, Claude, Gemini, Llama) and external services.
- Built workflow components for AI processing, document parsing, communication automation (Email, Discord, SMS), and scheduling.

Student Performance Predictor (FastAPI, Scikit-learn, SHAP)| LINK **July 24- August 2024**

- Built predictive web app using Random Forest, SVM, GBM to detect at-risk students. Integrated SHAP for model explainability and delivered real-time predictions
- Developed an ensemble machine learning pipeline (Random Forest, SVM, GBM) with feature engineering, hyperparameter tuning, and optional SHAP-based explainability to improve model transparency and trust.
- Designed an interactive, responsive frontend with Tailwind CSS and Framer Motion, translating model outputs into actionable recommendations based on behavioral and academic risk factors.

CERTIFICATES

Generative AI Engineering (IBM) | CERTIFICATE **December 2025**

- Gained hands-on experience with **generative AI and NLP architectures**, including **transformers, attention mechanisms, tokenization, and prompt engineering**, for building LLM-powered systems.
- Built **RAG-based NLP applications** using **PyTorch, Hugging Face Transformers, GPT/BERT, and LangChain**, leveraging document loaders to enable question-answering from multiple data sources.