Bala Adhish N D

Machine Learning & Full-Stack Developer
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Linkedin | **GitHub**

Education

Kathir College of Engineering — Coimbatore, India
Computer Science Bachelor of Engineering — Nov 2022 - Jun 2026
Percentage: 82.4%

Sri K. Rangasamy Naidu Higher Secondary School — Coimbatore, India
Computer-Maths HSC — Jun 2021 - May 2022
Percentage: 77.16%

Skills

Programming Languages:	Python, JavaScript, Java, HTML, CSS
Libraries/Frameworks:	Scikit-learn, OpenCV, NumPy, Pandas, SCSS, Bootstrap, Django REST Framework, Hugging Face Transformers, React, TensorFlow
Tools / Platforms:	Git, GitHub, VS Code, Figma
Databases:	SQL, SQLite, MongoDB

Projects / Open-Source

AI Chatbot for Academic Assistance *Python, Django REST Framework, Hugging Face Transformers, SentenceTransformers, FAISS*

Programmed an end-to-end RAG-based chatbot for academic Q&A.
Engineered the **prediction pipeline with FAISS + Transformers** and applied prompt engineering for accurate responses.

Carbon Footprint Analyzer for Indian Coal Mines *HTML, React, Django, Chatbot Integration*

Implemented an **end-to-end web tool** to estimate and visualize carbon footprints.
Integrated a chatbot to suggest **emission reduction strategies and support carbon neutrality roadmaps**.

Autodrop AI & IoT-Based Smart Irrigation & Fertigation System *Python, Raspberry Pi, Firebase, Flutter, MQTT*

Created an **AI + IoT system** to optimize water and fertilizer usage using **real-time sensor data**.
Contributed by building the **prediction model** for **irrigation and fertilizer requirements**, integrating it with IoT via MQTT, and optimizing data preprocessing for accuracy.

Sales Forecasting Using Multi-Models *Python, Statsmodels, Scikit-learn*

Built and evaluated forecasting models (Seasonal Nave, Holt-Winters, ARIMA, SARIMA, Linear Regression) to predict sales trends.
Compared model accuracy (RMSE, MAPE) and identified the best-performing approach for demand prediction.

Certifications

- Data Structures and Algorithms in Python - **NPTEL**
- Introduction to Machine Learning - **NPTEL**
- Java Programming with Data Structures and Algorithms - **Smart Yugam Academy**

Honors & Awards

- Top 100 Team in the Open Weaver Hackathon by ICT Academy
- Participation in CANSAT (ISRO competition)