Sandana S

AI Engineer | Data Science & ML Expert

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PROFESSIONAL SUMMARY

I'm a data and AI professional with hands-on experience in developing and deploying intelligent systems using **Python, Machine Learning, and Deep Learning**. Skilled in **data analysis, visualization (Power BI)**, and backend development with tools like **FastAPI, Azure, and Docker**, I've worked on multiple real-world projects that bridge theory and practical implementation. Passionate about continuous learning and applying AI-driven solutions to solve complex business problems.

PROFESSIONAL EXPERIENCE

Quper Technologies, *AI/ML Intern* ⧉   Jul 2025 – Oct 2025 | Kochi,India
- Collaborated closely with full-stack developers, business teams, UI/UX designers, and senior engineers to build and deploy AI-driven web applications.
- Worked with **Git**, **Docker**, **Azure Portal**, **Azure Container Apps**, **Azure Static Web Apps**, **Azure Storage Accounts**, and **Azure DevOps** for version control, CI/CD, and deployment management.
- Gained hands-on experience in **containerization**, **microservice integration**, and **versioned deployments** across environments.

Key Projects:
- **Grain Analyzer (YOLOv8 + Streamlit)** – Developed an image classification model using **YOLOv8** to detect and categorize good/bad grains. Integrated with **Streamlit** UI to display annotated results, counts, and predictions. Containerized and deployed via **Modal** with **FastAPI** endpoints.
- **AI Microservice for Expense Automation (Abide WebApp)** – Engineered a standalone **AI service** to extract invoice and expense details using **multi-agent orchestration (OpenAI APIs)**. Designed **FastAPI endpoints** for data exchange, automated JSON-based field extraction, and integrated with the main web app. Deployed using **Azure Blob Storage** and **Azure Container Apps**.

Quadtri Technologies Pvt Ltd, *Data Engineer Intern*   Dec 2024 – Jun 2025 | Ernakulam, India
- Collaborated with **AI and IoT teams** to design and deploy **object detection systems** using **YOLOv8**, managing end-to-end model development from **data collection, augmentation, and cleaning** to real-time alert integration.
- Enhanced **Docker-based deployment workflows** and contributed **research insights** to improve model accuracy, system performance, and seamless **production integration**.

Luminar technohub, *Data Science Intern*   Jun 2024 – Dec 2024 | Ernakulam, India
- Applied theoretical concepts to practical projects, strengthening skills in **Machine Learning**, **Deep Learning**, and **Power BI**.
- Practiced continuous skill development and explored new tools like **Git** and **Docker** for real-world data science applications.

SKILLS

Programming & Data:: Python, SQL, Power BI, Excel, NumPy, Pandas, Seaborn, Matplotlib, Data Cleaning, Dashboard Creation

Bigdata & Cloud: Azure (DevOps, Container Apps, Blob Storage, Static Web Apps), Git, Docker (Containerization & Deployment)

Natural Language Processing: Hugging Face Transformers, Rasa Framework, NLP Techniques, Text Extraction

Machine learning & Deep Learning: Artificial Neural Networks (ANN), Convolutional Neural Networks (CNN) | Scikit-learn, TensorFlow, Keras, Hyperparameter tuning

Soft skill: Team collaboration, clear communication, analytical thinking, quick learning

Web & App Development: Streamlit, Flask , HTML, CSS

PROJECTS

HR Analytics Classification- Machine Learning ⧉
- Developed an **XGBoost-based HR analytics model** to predict employee promotions with **~82% validation accuracy**, leveraging key features like performance ratings, training scores, and service length.
- Performed **EDA, feature encoding, and imbalance handling (~8% positive cases)** to improve recall for promotion prediction by over **70%**, enabling data-driven HR decision-making.

PDF answering - AGENTIC RAG Chatbot
- An advanced Retrieval-Augmented Generation (RAG) chatbot application that intelligently routes user queries to specialized AI agents (Q&A, Summarization, PPT Creation) based on the user's intent.
- The system is built using a modern **React** frontend and a performant **FastAPI** Python backend, featuring Ollama for the Language Model and FAISS for vector storage and semantic caching.

Agricultural Crop yield of India States- PowerBI ⧉
- Completed an in-depth report on agricultural crop analysis across Indian states, providing valuable insights for informed decision-making.

COURSES & CERTIFICATIONS

Bigdata Analytics-Data science, *Luminar Technolab* ⧉   Sep 2023 – Jun 2024 | Ernakulam

EDUCATION

BSc Physics under University of Kerala, *Sree Narayana College for Womens*   Jul 2018 – Mar 2021 | Kollam
Completed Bachelor of Science with distinction from the University of Kerala in 2021, achieving an A grade.

Higher Secondary Education, *Board of Higher Secondary Education*   Jun 2016 – Mar 2018 | Kollam,Kerala