Sarmitha S

AI/ML Engineer

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AI-Portfolio-Website

EDUCATION

B.E Electronics and Instrumentation Engineering,
Sri Ramakrishna Engineering College
2021 – 2025 | Coimbatore, India
Specialization : Sensor Technology
CGPA : 9.12/10

HSC,
Vimal Jyothi Convent Matric Higher Sec School
2021 | Coimbatore, India
Grade : 91.5%

SKILLS

Programming Language:
Python, HTML, CSS, JS

ML Libraries & Tools:
NumPy, Pandas, Scikit-learn, Keras, SHAP, SMOTE, Grad-CAM, MCP, llama Index, Playwright, OpenwebUI, Ollama

Deployment & Frameworks:
Flask, Streamlit, Docker, Render, Railway, Git, Google Colab

ACHIEVEMENTS

Sri. P. Ramasamy Naidu Memorial Award,
Sri Ramakrishna Engineering College
Awarded for achieving the highest CGPA (9.1/10) across the department (2021–2023).

Served as a **Jury member** for Hackspora2k25 at Karpagam Academy of Higher Education, representing **Gravity AI** and evaluating innovative AI/ML projects.

HACKATHONS

- **Top 50 Finalist** – Thryve Digital National Healthcare Hackathon
- Participated in Annual Innovation Expo – MVJ College of Engineering, Bangalore
- Built predictive model in **Humidity Prediction Challenge** – MachineHack

PROJECTS

TalentSynth-Resume Analyzer
Tech Stack: Django, Gunicorn, llama-parse, llama-index, SQLite
Github Link | Demo

- Developed an AI-powered resume parser using LlamaParse and Google Gemini 2.5 Flash to extract and semantically analyze candidate data against job descriptions.
- Created a strict rubric-based evaluation system scoring technical, soft skills, experience, and education for precise candidate-job matching.
- Delivered a secure, scalable Django full-stack app on Railway with Google OAuth authentication and a real-time analytics dashboard for career insights.

AI Portfolio
Tech Stack: Python, Flask, Gunicorn, GPT-4o, rank_bm25, deep-translator
Github Link | Demo

- Developed a hybrid RAG system integrating OpenAI embeddings with FAISS for semantic search and BM25 as an automatic fallback, ensuring reliable retrieval even during GPT API quota limits.
- Implemented real-time resume synchronization using Notion integration with hash-based change detection, enabling automatic update of embeddings and search indices with zero downtime.
- Designed a context-aware conversational interface supporting multilingual input, 5-message history tracking with visual context feedback, and strict response guardrails to maintain accuracy within resume scope.

AI for Pneumonia Detection using Deep Learning
Tech Stack: TensorFlow, Keras, EfficientNetB0, MobileNetV2, Grad-CAM, Streamlit
Github Link | Demo

- Developed and deployed a deep learning app to classify chest X-rays as Pneumonia or Normal in real time
- Trained MobileNetV2 and EfficientNetB0 with data augmentation, early stopping, and ResNet50-based knowledge distillation
- Integrated Grad-CAM for visual explanation of predictions, enhancing interpretability in medical imaging
- Achieved 96% accuracy and 0.995 AUC using a dynamic confidence-weighted ensemble

Interactive Linear Algebra Toolkit
Tech Stack: Python, Streamlit, NumPy, Plotly, Matplotlib
Github Link | Demo

- Developed a web-based toolkit using Python and Streamlit to visualize linear algebra concepts
- Implemented Gaussian elimination, Guass Jordan Elimination, 2D/3D matrix transformations, and PCA using eigen decomposition and SVD
- Designed interactive interfaces to bridge theory with practical understanding

CERTIFICATES

Linear Algebra for Machine Learning and Data Science
Coursera

Artificial Intelligence Primer Certification
Infosys Springboard | Score : 82.5

OpenAI Generative Pre-trained Transformer 3 (GPT-3) for developers
Infosys Springboard

Launching into Machine Learning
Google Cloud

Introduction to AI and Machine Learning on Google Cloud
Google Cloud

Numpy
Great Learning

HackerRank Verified Skill Certifications
Basic: Python, SQL

BEC Preliminary English Exam
Cambridge (Score: 152/170)

Industrial IoT & Industry 4.0
NPTEL (Silver Certificate, Merit Holder)

INTERESTS

- **Visual Arts :** Passionate about sketching and painting since childhood, enhancing creativity and visual problem-solving
- **Dance :** Practiced for several years, fostering discipline, rhythm, and stage confidence

INTERNSHIPS

Gravity AI, *Intern*
07/2025 – 09/2025 | Coimbatore, Tamilnadu, India

- Implemented car damage identifier, RAG-based repair guidance, and OpenWebUI chat with LLM-driven MySQL queries.
- Worked with Docker, MCP, and Playwright to automate and orchestrate AI/ML workflows.
- Learned prompting, context engineering, model pricing trade-offs, and semantic tool-calling techniques.

Open Source Engineering Cooperation, *Intern*
06/2023 | Bengaluru, India

- Gained hands-on understanding of C programming fundamentals for embedded systems.
- Explored the working principles of sensors and microcontrollers in real-world applications.
- Studied PIC microcontrollers in detail, including their architecture and use cases.

PUBLICATIONS

ICAISS-2023 (Scopus Indexed)-IEEE,
Care College of Engineering, Trichy
Paper: Monitoring of Prosthetic Leg During Rehabilitation Using IoT
Real-time movement tracking of prosthetic and normal legs using IoT sensors via ThingSpeak.

ICCES-2024-IEEE,
PPG Institute of Technology, Coimbatore
Paper: Determining the Toxicity of Water After Oilspill using UAV
Assessment of water toxicity after oil spills using UAV-mounted sensors for real-time monitoring and data visualization to guide remediation efforts.

LANGUAGES

- Tamil (Native)
- English (Professional fluency)