

SAKTHIVEL S M

AI & LLM Engineer | Generative AI & Production Systems

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Professional Summary

AI Engineer specializing in production-scale Generative AI, LLM systems, and computer vision. Expert in RAG, multimodal AI, and scalable pipelines. Nationally awarded for AI applications in AgriTech, ClimateTech, and CivicTech.

Technical Skills

- Generative AI & LLMs:** LangChain, LlamaIndex, RAG, HuggingFace, Vector DBs, Fine-tuning
- Machine Learning:** PyTorch, TensorFlow, YOLOv8/v10, OpenCV, Scikit-learn, Transformers
- Data Engineering:** Apache Spark, Airflow, BigQuery, PostgreSQL, MongoDB, ETL/ELT
- Cloud & MLOps:** AWS, GCP, Docker, FastAPI, Streamlit, CI/CD, Model Serving
- Programming:** Python, SQL, R, C, Git, Bash

Education

B.Tech in Artificial Intelligence & Data Science

Acharya College of Engineering & Technology

Expected 2026

CGPA: 8.75/10.0 | [Academic Progress](#)

Professional Experience

Machine Learning Research Intern

Annam.AI, IIT Ropar

May 2025 – Present

Stipend: 75,000

- Developing **AgriWaste2Fuel**, an AI platform for waste classification and carbon credit estimation (3rd prize, national hackathon).
- Optimized YOLOv8 models, reducing inference latency by 35% while maintaining 92% accuracy.
- Built scalable FastAPI endpoints handling 100+ concurrent requests with <200ms latency.
- [GitHub](#) | [Demo](#)

Full-Stack Developer Intern

ABM Groups

Oct 2024 – Apr 2025

- Engineered Django REST APIs with MongoDB optimization, improving response times by 30%.
- Implemented CI/CD pipelines with GitHub Actions, reducing deployment failures by 75%.
- Developed data aggregation pipelines, increasing code coverage from 45% to 85%.
- [Showcase](#)

Automation Engineering Intern

MSME, Government of India

Jan 2025

- Automated document workflows using Python, saving 20+ hours weekly, processing 500+ docs daily.
- Built PDF extraction and reporting dashboard, cutting report time from 4 hours to 15 minutes.
- Implemented error handling, decreasing process failures by 90%.
- [Experience](#)

Key Projects

AgriWaste2Fuel — AI Sustainability Platform

3rd Prize (3L) | IIT Ropar

- Classifies agricultural waste (92% accuracy) and computes carbon credit potential.
- Tools:** YOLOv8, FastAPI, HuggingFace, Vector DBs, Climate APIs
- [GitHub](#) | [LinkedIn](#)

TRINETRA AI — DEEP-SHIVA: Tourism-Focused LLM

Ongoing

- Open-source, multimodal LLM for Indian tourism with custom RAG (40% relevance improvement).
- Tools:** PyTorch, HuggingFace, LangChain, Vector DBs, Vision Transformers
- [GitHub](#) | [LinkedIn](#)

CivicEye — AI-Powered Civic Governance Platform

Ongoing

- Detects urban issues (89% accuracy) with YOLOv8; logs 5000+ reports via Ethereum smart contracts.
- Tools:** YOLOv8, FastAPI, Solidity, Web3.py, Streamlit
- [GitHub](#) | [LinkedIn](#)

SEABRAIN — Offline Marine Intelligence Assistant

- Voice-interactive AI for fishermen with weather alerts (85% accuracy) using local LLMs.
- Tools:** LangChain, RAG, Sentence Transformers, Streamlit, Chroma DB
- [Live Demo](#)

AgriEye — Precision Agriculture with Computer Vision

- Real-time flower maturity detection (90.5% accuracy) with YOLOv8 edge deployment.
- Tools:** YOLOv8, OpenCV, Flask, Data Augmentation
- [GitHub](#)

Certifications

- Big Data Computing** — IIT Kanpur ([View](#))
- MongoDB Certified Developer Associate** ([View](#))
- CII-Eaton Talent Development Program** ([View](#))
- Agentic AI Day Participant** ([View](#))

Awards & Recognition

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| • 3rd Prize (3,00,000) – ANNAM.AI National Hackathon, IIT Ropar | 2025 |
| • Research Stipend (75,000) – ML Internship, IIT Ropar | 2025 |
| • 1st Place (5,000) – TechXplore'25 Innovation Contest | 2025 |
| • Runner-up (3,000) – Eureka 3.0 Innovation Event | |
| • 3rd Place (10,000) – FuturePreneur Grand Finale | |
| • Academic Top Performer – AI & DS Department | |
| • 5th Place (4,000) – IMPACTX 2K25 Hackathon | 2025 |

Languages

Tamil (Native), English (Fluent), Telugu (Conversational), Hindi (Basic)