

Karthikeyan S

AI & ML Engineer | Cloud & Infrastructure Enthusiast

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SUMMARY

Aspiring AI & Machine Learning Engineer with hands-on experience in Artificial Intelligence, Deep Learning, Computer Vision, Cloud Deployment, Robotics, IoT, and Data Analytics. Skilled in building intelligent solutions using Python, PyTorch, TensorFlow, OpenCV, AWS, and modern web technologies through projects, internships, research, and leadership initiatives. Passionate about developing scalable, real-world solutions that drive innovation and business impact.

CORE COMPETENCIES

- **Programming & Development:** Python, HTML, CSS, C/C++, JavaScript.
- **AI & ML Skills:** Machine Learning, Deep Learning, NLP, Generative AI, LLMs, Prompt Engineering, Computer Vision, Feature Engineering, Model Deployment, CNN, RNN, GANs.
- **Frameworks & Tools:** TensorFlow, PyTorch, Scikit-learn, APIs, Ultralytics.
- **Cloud & Deployment:** AWS & Oracle Deployment.
- **Data Analysis & Visualization:** Excel, Power BI, Pandas, NumPy, Matplotlib
- **Version Control & Collaboration:** Git/GitHub, Jupyter Notebook

PROJECTS

1. BuildScan Rover - AI-Based Autonomous Robot for Indoor Structural Health Inspection (Final Year Project) **Publication: ICICEA'26, A.V.C. College of Engineering Apr 2026**

- Developed an AI-powered autonomous rover integrating Robotics, IoT, Computer Vision, and Deep Learning for real-time structural crack detection.
- Deployed YOLO26n-seg with CUDA/cuDNN GPU acceleration for crack segmentation, severity analysis, live monitoring, and automated PDF report generation.

2. LexAI – Legal & Cyber Law Intelligence Platform

- Developed a Retrieval-Augmented Generation (RAG) platform to answer legal and cybersecurity queries using LLMs and semantic search.
- Built a document intelligence pipeline with LangChain, Ollama, and Flask for accurate retrieval and AI-assisted responses.

3. Result Awareness System – FEAT Academic Utility Platform (Volunteer Project)

- Built an academic utility platform supporting 2,400+ course records across 13 departments and 8 semesters.
- Implemented CGPA/SGPA calculation, PDF report generation, semester planning, honor subject eligibility, and academic performance analysis.

EDUCATION

Bachelor of Engineering (B.E.) in Computer Science & Engineering (AI & ML) | Annamalai University, Tamil Nadu | 2026 | First Class | CGPA: 7.09

HSC | Saraswathi Matriculation Higher Secondary School | 2022 | 84.8%

SSLC | Saraswathi Matriculation Higher Secondary School | 2020 | 78.6%

HDCA – TCES I.T. Education (2022) – First Class

Fellow at **NxtWave CCBP 4.0 Academy**, exploring **emerging Industry 4.0 technologies**.

INTERNSHIP AND TRAININGS

AI & ML Internship — *Live Stream Technologies, Coimbatore* **Jun 2025**

- Developed **GANs, VAEs, and Transformer-based models** for image synthesis, text generation, and chatbot applications.
- Applied model fine-tuning and hyperparameter optimization techniques.

Web Development Internship — *Techplement, (Remote)* **Apr 2024**

- Developed and deployed responsive websites using HTML, CSS, JavaScript, and GitHub Pages.

Training Certifications:

- Python Programming – **LIVEWIRE India (2023)**
- AWS Cloud Deployment – **NxtWave**

LEADERSHIP EXPERIENCE

Computer Science & Engineering Association (CSEA) 2023-26

General Secretary | Joint Secretary | Executive Committee Member

- Led and organized **technical symposiums, AI events, and student engagement activities**.
- Successfully completed and coordinated academic events including **COMPSEM'26** and **NETSPORTS'25–26**.
- Organized an **AI Symposium with 100+ participants**, strengthening leadership and event management skills.

WORKSHOPS

- National Workshop on **Research Issues in Emerging Trends in IoT (RESI 4)** - Annamalai University.
- **Blockchain-Assisted Secure Cyber-Physical Systems Workshop** - Shiv Nadar University, Chennai.
- **Quantum Computing FDP Support** – SRMIST, Tiruchirappalli (*under EICT, IIT Roorkee*)