SANTHOSH RAJINIKANTH

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PROFESSIONAL SUMMARY

AI/ML Engineer with hands-on expertise in Deep Learning, Computer Vision, and NLP. Proficient in Python, PyTorch, TensorFlow, Scikit-learn, and YOLO for building real-time object detection systems and optimizing ML/DL models. Experienced in containerized deployment with Docker and Kubernetes, statistical model evaluation, and Generative AI development including NLG, NLU, and RAG pipelines. Published author of 5 IEEE-indexed research papers in Computer Vision and Deep Learning. Strong analytical problem-solving aptitude with a collaborative approach to cross-functional team environments.

EDUCATION

M.Tech – Artificial Intelligence & Machine Learning 2025 – Present
VIT Chennai | Industry Collaboration: LTIMindtree | CGPA: 7.04

B.Tech – Electrical & Electronics Engineering 2021 – 2025
VIT Chennai | CGPA: 7.52

TECHNICAL SKILLS

Languages: Python, SQL, Java, Scala, C
Frameworks: PyTorch, TensorFlow, Scikit-learn, HuggingFace Transformers, YOLO
ML / AI: Computer Vision, Object Detection, NLP (NLG, NLU, Text Generation), Generative AI, RAG, Statistical Analysis
DevOps & Cloud: Docker, Kubernetes, AWS, CI/CD (GitHub Actions)
Software Engineering: Algorithms, Data Structures, Software Architecture, FastAPI, REST APIs, Git

PROJECTS

Number Plate Detection System — High-Speed Lanes YOLO, PyTorch, OpenCV, Python
Built a real-time license plate detection system for high-speed traffic lanes using YOLO. Designed annotated training datasets, applied data augmentation strategies, and evaluated model accuracy using mAP and IoU metrics to optimize detection performance across varying vehicle speeds and lighting conditions.

NeuroMorph GAN — Image Translation Framework PyTorch, Pix2Pix, CycleGAN
Developed a GAN-based image translation framework supporting Pix2Pix and CycleGAN architectures. Built scalable training and inference pipelines for Computer Vision image transformation and synthesis tasks.

LEXORA AI — Enterprise RAG Platform FastAPI, LangGraph, HuggingFace
Built an enterprise-grade RAG platform with semantic search, vector retrieval, and multi-agent orchestration. Enabled intelligent document analysis and NLP-driven research workflows with contextual NLU and text generation.

ContentOS — Multi-Agent Generative AI System Python, GPT-4o, Gemini API
Developed a multi-agent system for automated NLG, content validation, and optimization. Implemented workflow orchestration and prompt engineering for scalable Generative AI applications.

RESEARCH PUBLICATIONS

Author of 5 IEEE-indexed publications in Deep Learning and Computer Vision:

- Enamel Caries Detection in Tooth Photographs
- Potato Plant Disease Detection from Leaf Images
- Potato Plant Disease Detection Using Features Fusion
- Retinal OCT Classification Using Deep Learning
- Rice Plant Disease Detection Using ResNet Framework

CERTIFICATIONS & ACTIVITIES

- Hands-on AI for Real World Applications — IIT Kharagpur
- Advanced Diploma in Python Programming
- DataSprint Final Hackathon — SCOPE, VIT Chennai (Sep 2025)
- DataQuest 2 Hackathon — SCOPE, VIT Chennai (Sep 2025)
- Dataset Edition 2 Hackathon — Alumni Events, VIT Chennai (Dec 2025)