# SANTHOSH S

AI / Machine Learning Engineer Enthusiast · Computer Vision · Deep Learning
+91 6369773159 | santhosh17905@gmail.com | linkedin.com/in/santhosh-s-8a21802a0 |
https://santhosh17905-portfolio.vercel.app | github.com/Santhosh17905 | Thiruvarur, Tamil Nadu

## PROFESSIONAL SUMMARY

Results-driven Electronics and Communication Engineering (ECE) graduate from St. Joseph College of Engineering with a CGPA of 8.74/10 and hands-on experience across 30+ projects spanning Deep Learning, Computer Vision, Natural Language Processing (NLP), and Supervised/Unsupervised Machine Learning. Proficient in building end-to-end ML pipelines using Python, TensorFlow, Keras, Scikit-learn, and OpenCV. Demonstrated ability to translate real-world problems into deployed and evaluated AI/ML solutions. TCS NQT Cognitive Qualified. Seeking opportunities as an AI/ML Engineer, Software Developer, or Graduate Engineer Trainee (GET) to contribute technical expertise and deliver measurable impact.

## TECHNICAL SKILLS

**Languages:** Python, SQL, Java (basics)

**ML Frameworks:** Scikit-learn, TensorFlow, Keras, PyTorch, XGBoost

**CV & DL:** OpenCV, CNN, RNN, LSTM, Transfer Learning

**NLP:** NLTK, TF-IDF, Sentiment Analysis, Text Classification

**Data & Viz:** Pandas, NumPy, Matplotlib, Seaborn, EDA

**Tools & Cloud:** Git, GitHub, VS Code, Streamlit, AWS (basics)

## KEY PROJECTS

**AI-Powered Traffic Sign Classification (CNN)** — Computer Vision · Deep Learning

- Engineered a CNN-based deep learning model achieving 95%+ classification accuracy across 43 traffic sign categories using the GTSRB dataset; applied data augmentation, batch normalisation, and dropout regularisation.
- Implemented real-time inference pipeline using OpenCV for autonomous driving support; model processes live video frames with sub-100ms latency.
- Tech: Python · TensorFlow · Keras · CNN · OpenCV · GTSRB

**AI-Powered Attendance System — Face Recognition** — Computer Vision · Deep Learning

- Built an automated attendance management system using LBPH and deep learning-based face recognition; achieved 97%+ detection accuracy under variable lighting conditions.
- Integrated real-time face detection (Haar Cascade + DL), automated CSV log generation, and a Tkinter GUI for end-to-end deployment.
- Tech: Python · OpenCV · LBPH · TensorFlow · Tkinter · CSV

**Plant Leaf Disease Detection using CNN** — Deep Learning · Agriculture AI

- Developed a multi-class CNN classifier to detect 10+ plant diseases from leaf images; applied transfer learning (MobileNetV2) achieving 93%+ validation accuracy.
- Integrated Grad-CAM visualisation to provide explainability — highlighting disease-affected regions on leaf images.
- Tech: Python · TensorFlow · Keras · CNN · Transfer Learning · Grad-CAM

**AI Face Emotion Recognition System** — Deep Learning · Computer Vision

- Designed a real-time emotion detection pipeline classifying 7 facial expressions (happy, sad, angry, fear, disgust, surprise, neutral) from live video streams with 88%+ accuracy.
- Utilised a custom CNN architecture trained on the FER-2013 dataset; deployed via OpenCV for real-time webcam inference.
- Tech: Python · TensorFlow · Keras · FER-2013 · OpenCV · CNN

**COVID-19 Detection from Chest X-Rays (CNN)** — Medical Imaging · Deep Learning

- Built a binary CNN classifier to detect COVID-19 from chest X-ray images; applied transfer learning and data augmentation achieving 94%+ precision on balanced test sets.
- Tech: Python · Keras · TensorFlow · CNN · Medical Imaging

**Breast Cancer Tumour Detection — Comparative ML Study** — Machine Learning · Healthcare AI

- Conducted a systematic comparison of 6 ML classifiers (Logistic Regression, SVM, KNN, Decision Tree, Random Forest, XGBoost) on the Wisconsin Breast Cancer dataset; XGBoost achieved 97.2% accuracy and 0.98 AUC-ROC.
- Tech: Python · Scikit-learn · XGBoost · ROC-AUC · Pandas

## INTERNSHIP EXPERIENCE

**Machine Learning Intern** — NoviTech R&D Pvt Ltd. Nov 2025 – Dec 2025

- Built supervised ML pipelines covering feature engineering, model selection, and evaluation (Precision, Recall, ROC-AUC) on real datasets; final project: customer churn prediction using ensemble methods. [Cert ID: MLIN9783]

**Artificial Intelligence Intern** — NoviTech R&D Pvt. Ltd. Nov 2025 – Dec 2025

- Developed applied AI systems including neural network architectures and AI-driven decision pipelines using TensorFlow and Keras. [Cert ID: AIIN16219]

**Data Analytics Intern** — NoviTech R&D Pvt. Ltd. Jan 2026 – Jan 2026

- Performed end-to-end EDA on business datasets; built Power BI dashboards presented to management and delivered weekly insight reports. [Cert ID: DAIN13809]

**Cloud Computing Intern** — Edu Tantr Jul 2025 – Oct 2025

- Gained practical exposure to cloud infrastructure, deployment workflows, and AWS core services.

## EDUCATION

**B.E. Electronics & Communication Engineering (Hons)** — St. Joseph College of Engineering 2022 – 2026 | CGPA: 8.74 / 10

**HSC & SSLC** — Sri Lalithaambiga Matric HR Sec School 2020 – 2022 | HSC: 85% · SSLC: 97%

## CERTIFICATIONS & ACHIEVEMENTS

- **TCS iON NQT Cognitive — Qualified (Score: 987.20/1800 | Jan 2026)**
- TCS iON Career Edge — Young Professional & IT for Non-IT (Jul 2025)
- AWS AI Practitioner Challenge — Udacity/AWS (Jun 2026) · Credential: udacity.com/certificate/e/d353518e
- AWS Solutions Architecture Job Simulation — Forage (Sep 2025)
- Microsoft Office Essentials — Naan Mudhalvan / Microsoft (Jun 2025)
- LinkedIn Learning: Microsoft Copilot for Productivity, Prompt Engineering, Generative AI (2025)
- NoviTech Full Stack Dev MasterClass (30 days) & AI MasterClass (30 days) — 2025
- Cloud + Linux Workshop & AWS Top 10 Services Workshop — Cloud DevOps Hub (Sep 2025)
- **LG Scholarship Holder · Department Rank Holder — ECE, SJCE**
- Hackathon 2K25 — Project Expo Participant, Dept. of ECE, SJCE (May 2025)
- Participated in International Conference “Recent Researches in Engineering Devices and Materials -2026”
- IIT Bombay Spoken Tutorial: Linux (Score 50%) & HTML (Score 75%) — SJCE