

# SATHISH M

AI/ML Engineer Intern | Machine Learning | NLP | Python Developer

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## PROFESSIONAL SUMMARY

AI/ML Engineer with hands-on experience in machine learning model development, NLP systems, data preprocessing, and full-stack deployment. Skilled in Python, Scikit-learn, Pandas, NumPy, Flask, React, and Node.js with strong foundations in algorithms and model evaluation. Proven ability to improve model accuracy, optimize system latency, and build real-world AI applications.

## EDUCATION

B.Tech – Computer Science and Engineering

Sri Venkateshwaraa College of Engineering and Technology, Puducherry

CGPA: 8.5 · Graduation: 2027

Jeevandham Gov Hr. Sec School

HSC – Percentage 74.3%

May 2023 · Nellithope, Puducherry

| T.S.M. Gov Hr. School

| SSLC – percentage 75 %

| March 2021 | Murugakkam, Puducherry

## CORE SKILLS

- **Machine Learning:** Random Forest, Gradient Boosting, NLP, Model Evaluation
- **Python Libraries:** Scikit-learn, Pandas, NumPy
- **Frameworks:** Flask, React 18, Node.js, Express.js
- **Databases:** PostgreSQL, MongoDB
- **Deployment & Tools:** Docker, REST APIs, Git, Firebase, NodeMailer
- **AI Concepts:** GPT-4, LLMs, Optimization Algorithms, Semantic Reasoning

## PROJECTS

### AI Rockfall Prediction System (ML, Python) [GitHub](#)

- Developed a real-time rockfall prediction system using Random Forest and Gradient Boosting, integrating drone imagery, DEM, and sensor data to generate **7-day probability-based risk forecasts**.
- Built a **Flask API + React dashboard** with interactive risk maps, automated SMS/Email alerts, and real-time monitoring—improving proactive hazard detection and mine safety operations.

### GenAI Material Selection Assistant (GPT-4, NLP) [GitHub](#)

- Developed a **GPT-4 powered NLP assistant** for engineering material selection using a 2,847+ material database mapped to global standards (ASTM, DIN, ISO, JIS), reducing selection time by **28%**.
- Built a full-stack platform using **React, TypeScript, Node, MongoDB**, featuring sustainability scoring (carbon footprint, recyclability) and advanced analytics dashboards.

### Agricultural Blockchain Ecosystem (ML + Hyperledger) [GitHub](#)

- Engineered a blockchain-enabled supply chain platform using **Hyperledger Fabric**, integrating multilingual voice contracts and **AI-based price prediction (75–95% accuracy)** for multiple crops.
- Implemented QR-based traceability, carbon credit scoring, and a **Flask + React analytics dashboard**, enabling transparent farm-to-market tracking and sustainability insights.

### Library Management System (MERN + Automation) [GitHub](#)

- Built a full-stack MERN application with **JWT authentication**, automated fine calculation, cron scheduling, and real-time inventory tracking with advanced search filters.
- Designed a modern **Tailwind CSS + React UI** with dashboards (Recharts) and automated email alerts via NodeMailer for due/overdue notifications.

## EXPERIENCE

### AI/ML Intern — Edunet Foundation (Oct 2024 – Dec 2024 )

- Improved chatbot accuracy by 30% using ML model tuning and text preprocessing.
- Reduced API inference latency from 4s to 1.5s using optimized Flask pipelines.
- Integrated ML systems using REST APIs enabling 150+ real student interactions.

### Full Stack Developer Intern — One Yes Infotech (Mar 2025 – Apr 2025)

- Built EdTech platform used by 300+ students using React, Node.js, and PostgreSQL.
- Improved backend performance by 40% through query optimization.
- Implemented secure JWT authentication improving system reliability.

## CERTIFICATIONS

- Juniper — Cloud Networking Virtual Internship (2025)
- Palo Alto — Cybersecurity Virtual Internship (2025)
- IBM — Interpersonal Skills (2024)
- CSC — Full Stack Developer Certification (2023)
- GUVI — Python Programming (2023)

## ACHIEVEMENTS

- July 2025 - Best Technical Approach Award at Agentic AI Hackathon 2025, organized by Startups TN, DigiMax, and others at SIMATS Engineering College, Chennai Feb 2025 -
- Successfully participated in IDE Bootcamp, organized by AICTE at PSNA College, Dindigul Nov 2024
- 2nd Runner-Up hosted by One Yes Infotech Solutions at DCE College, Chennai Sep 2023
- Participated in Smart India Hackathon (SIH) 2023, to solve real-world problems using innovative technology.

