

# NAKUL KRISHNAN SUDHAKAR

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## SUMMARY

Final-year B.Tech Computer Science and Engineering student with a CGPA of 9.09, strong technical foundation, and a track record of impactful project development. Experienced in building scalable web and AI-driven systems, with published research at an IEEE conference and multiple virtual internships in data engineering, machine learning, and app development. Proficient in Python, Flask, React, SQL, and key ML frameworks, with a strong passion for leveraging technology to solve real-world challenges.

## EDUCATION

**SRM Institute of Science and Technology, Kattankulathur**

B. Tech Computer Science and Engineering - **9.098** (CGPA)

Graduation Date : **June 2026**

**Lalaji Memorial Omega International School**

X Board CBSE - **84.2%**

Graduation Date : **March 2020**

XII Board CBSE - **83.6%**

Graduation Date : **June 2022**

## WORK EXPERIENCE

**Internship with an NGO – Sree Ragas Educational and Charitable Trust**

June 2024 - July 2024

- Worked on a Central Government Project on AIDS Eradication and Prevention
- Performed data entry for the SOCH app, documenting information on individuals affected by AIDS to enhance program effectiveness

**AICTE Virtual Internship on Data Engineering**

July 2024-September 2024

**Android Developer Virtual Internship**

Oct 2024 - Dec 2024

**AI - ML Virtual Internship**

January 2025 - March 2025

## PUBLICATIONS

**IEEE Paper — ICEC Conference 2024**

- Published a paper on the "AI and IoT Based Fire Detection System" at the IEEE International Conference on Emerging Computing (ICEC), 2024.

## SKILLS AND INTERESTS

- Machine Learning: Tensorflow, Scikit-learn
- Back-End Development: C, C++, Python, Flask
- Front-End Development: HTML, CSS, Javascript
- Database: SQL, SQLite
- Computer Vision: OpenCV

## PROJECTS

**AI and IoT Based Fire Detection System — Built using Yolo-v4, Matlab, Arduino and sensors**

- Accepted at a Scopus-indexed IEEE Conference (ICEC 2024)
- Innovatively utilized flame sensors instead of traditional smoke detectors to enhance response speed and reliability.
- Achieved 98.4% detection accuracy with a real-time alerting mechanism for prompt fire suppression and safety intervention.

**CROPRO — Built using Python, Flask**

- A one-stop suggestive web application for farmers to optimize crop production and resource use.
- Developed CroPro, an intelligent agriculture solution that provides crop recommendations, disease predictions, fertilizer suggestions, and irrigation planning using machine learning models built with TensorFlow, PyTorch, and scikit-learn.
- Integrated real-time weather forecasting to dynamically adjust irrigation levels, significantly enhancing water efficiency and crop yield.
- Fertilizer and Pesticide recommendations and personalized article library custom to the crop type and region, promoting farming sustainable practices.

**Plan2Plate — Built using Python, React.js, MySQL, Bcrypt**

- Developed and deployed a full-stack recipe recommendation platform (Plan2Plate) using React and Node.js, enabling over 10 user-centric features including ingredient-based search, shopping list generation, and meal planning.
- Improved user experience by implementing a dynamic cooking timer, recipe rating system, and daily recommendations; reduced average search-to-selection time by ~40% via fuzzy matching and filter optimization.
- Led sprint-based agile development across 10+ modules with unit and integration testing, achieving 95%+ functional coverage and increasing user retention through personalized features and performance tuning.

## CERTIFICATES

- **NPTEL Online Certification** - Programming in Java, Computer Architecture, Introduction to Machine Learning
- **AWS Academy Graduate (AWS Academy)** - Machine Learning Foundations, Cloud Foundations, Data Engineering
- **COURSERA** - Interactive Computer Graphics
- **SCALER TOPICS** - DBMS Course Master the Fundamentals and Advanced Concepts
- **CISCO** - Networking Basics
- **SCHOOL OF COMPUTING CTECH SRM** - Programming in C
- **GREAT LEARNING** - Master Course in Full Stack Development