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## Sudharsan M

### B. E. Electronics & Communication Engg.

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## Executive Summary

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## Education

2023-2027	<b>Velammal College Of Engineering And Technology, Madurai.</b> Autonomous, Anna University, Chennai B. E. Electronics and Communication Engineering
2022-2023	<b>Mahatma Montessori Matriculation Higher Secondary School, K. K Nagar Madurai</b> HSC - Matriculation 79.6%
2020- 2021	<b>Mahatma Montessori Matriculation Higher Secondary School, K. K Nagar Madurai</b> SSLC - Matriculation

## Skills

- **Programming and Script Languages** : C++,C,Python,Dart,Java
- **Softwares known** : Matlab,Cisco Packet tracker
- **Tools and Technologies** : Arduino, Blynk IOT integration, Flutter, Android Studio, Visual Studio Code

## Internships

- Attended 10 day IN-Plant Training program of **Kudankulam Nuclear Power Plant** from 2/6/2025 to 13/6/2025 to learn about the everyday plant operation and immense safety systems in place and electronics behind controlling the power plant.

## Projects

- **Project Idea on Steganography**  
Proposed a password manager using steganography to embed encrypted credentials within images for enhanced security.Designed concept integrating encryption and image-based authentication for confidential access.
- **IoT Smart Exhaust System**  
Proposed an IoT-based exhaust system with sensors for pollutant and temperature detection.  
Enabled real-time air quality monitoring and automated ventilation control to optimize energy efficiency.
- **IoT-Based Ammonia Emission Monitoring (Poultry Farms)**  
Developed an IoT system to monitor and control ammonia levels with real-time alerts and predictive analysis.  
Implemented for EW Innovation Tech Competition & ARM Processor Competition (July 2024 – Present), supporting sustainable farming practices.
- **COPD & Asthma Monitoring Belt**  
Built a smart wearable belt with IR, ECG, and humidity sensors integrated with an LSTM-based ML model.  
Designed a Flutter mobile app for real-time health tracking; finalist at Health Hack 2025 (Top 30, VIT Bhopal & Johns Hopkins University)
- **AI and ML based Drone defence system**  
Built a ML Image recognition model for detecting friendly and enemy tanks to be implemented on swarm drones using Nvidia Jetson.

## Positions of Responsibility

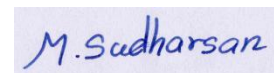
- Member of **LinkedIn** network.
- **Class Representative** at College for 2<sup>nd</sup> Year
- **Class Leader** at the school from 3<sup>th</sup> std to 9<sup>th</sup> std.

## Papers/Workshops/Internships

- Got **2<sup>nd</sup> Prize On Topic - Steganography** in competition “PAPTRIX(paper presentation)” On **MEACON 2K24** conducted by the Department of Electronics and Instrumentation, Velammal Engineering College ,Chennai on 17<sup>th</sup> February ,2024
- Attended a workshop “**IOT UNLEASHED**” At Kurukshetra’24 by College of Engineering, Anna University,Chennai on 2<sup>nd</sup> .March 2024
- Got **2<sup>nd</sup> Prize On a Project Competition “VCET Trophy**” conducted by the Department of Electronics and Communication Engineering , Velammal College of Engineering and Technology,Madurai on 13<sup>th</sup> April ,2024
- **ARM Processor-based Idea Competition:** Developed a **Smart Monitoring System for Gas Safety in Poultry Farms** for an ARM processor-based competition (March 2024-present).
- Attended a one day Pre Conference Workshop in DST-SERB Sponsored Velammal International Conference on Enginneering’24(VINCE’24) Organized by Department of Electronics and communication Engineering at Velammal College of Engineering and Technology,Madurai on the topic “**CYBER SECURITY & NIR SPECTROMETERS IN ENGINEERING APPLICATIONS**” on 16th May 2024.
- **PY Code Contest 2024 (27th August 2024):** Participated in the Python coding contest conducted by the IETE forum and cleared two stages of the competition.
- **SIH 2024:** Participated in the Smart India Hackathon with a project using Ground Penetrating Radar (GPR) technology to detect subsurface objects, including live human bodies, aimed at improving search-and-rescue operations.
- Got **1st Prize** on Smoke Detection System Project. Developed a smoke detection system using the TGS813 sensor and IC741. Won 1st prize at the LIC Project Contest (7th October 2024).
- Completed a 12 week course on the Topic -“**Machine Learning and Deep Learning- Fundamentals and Applications**” conducted by IIT Guwahati **National Programme on Technology Enhanced Learning (NPTEL)** and scored **53%**(18th November 2024).
- **HEALTH HACK 2025: Finalist** – COPD & Asthma Monitoring Belt (Health Hack 2025): Selected as a **finalist** in **Health Hack 2025** for developing a smart monitoring belt for Asthma-COPD Overlap Syndrome (ACOS) patients, integrating IR sensor, ECG sensor, and humidity sensor with an LSTM-based machine learning model and a mobile app for real-time monitoring. Ranked among the top 30 teams. (18th - 19th February 2025, organized by **VIT Bhopal & Johns Hopkins University, USA**).

**Declaration:** The information furnished above is correct to the best of my knowledge.

Date:28/11/2025



(Sudharsan .M)