SANTHOSH.P

EMT | B.E.COMPUTER SCIENCE AND ENGINEERING

CONTACT

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Ang Mo Kio, Singapore
Santhosh P
santhoshh-maax

NS JOURNEY 2021-2023

- Corporal First Class (CFC)
- EMT-SMTI, Nee Soon Camp
- 1.5 Years of experience in both Clinical and urban emergency response as a medic at KRHH, Kranji camp III

SOFT SKILLS

- Intrapreneurship
- Leadership & Team Coordination
- Problem Solving
- Adaptability

TECHNICAL SKILLS

- **Languages:** JavaScript, HTML, CSS,Python,Dart ,SQL , Java,C
- **Frameworks**: Flutter
- **Databases**:MongoDB, MicrosoftSQLServer
- **Version Control**: Git, GitHub
- **Tools**: Visual Studio Code, Arduino IDE

CERTIFICATIONS

click here

LANGUAGES

- English
- Tamil

PROFILE

Computer Science and Engineering graduate with hands-on experience in robotics, automation, and AI. Contributed to developing an autonomous rover using Jetson Nano and trained a YOLOv8 model for pothole detection. Skilled in Python, C/C++, and embedded boards (ESP32, Arduino, Raspberry Pi), with practical expertise in sensor integration and hardware-software systems. Motivated to advance in smart sensing, AI-driven automation, and Industry 4.0 applications.

PROJECTS

1. Automated Plant Monitoring System with SMS Alerts — 2024 FEB

- Built an Arduino-based system that automatically waters plants based on real-time soil moisture levels.
- Integrated Twilio SMS notifications to inform users of pump ON/OFF status even without internet access.
- Designed for remote and low-connectivity environments as an alternative to cloud-only IoT solutions.

2. SIM VITAL – Multi-Parameter & CPR Simulation Monitoring System — 2024 MAR- 2024 AUG

- Developed an educational medical simulator combining embedded sensors, ESP32, and real-time software visualization.
- Enabled nursing and medical trainees to monitor vital signs while performing CPR on a sensor-enabled mannequin.
- Designed to mimic real hospital monitors and provide feedback-oriented CPR training.

3. Step Assist – Smart Foldable IoT Crutch for Rehabilitation — 2025 JUNE-2025 DEC

- Designed a smart crutch with sensors for fall detection, weight distribution, step counting, and gait analysis.
- Built a mobile app with real-time data visualization, voice assistance, multilingual support, and doctor communication.
- Focused on improving safety, rehabilitation monitoring, and independent mobility for elderly and impaired users.

4.Road Bot – AI Powered Autonomous Road Maintenance Rover — 2026 JAN-2026 FEB

- Designed an autonomous rover with Jetson Nano, ESP32, and Intel RealSense depth camera to detect and measure potholes in real time.
- Implemented YOLOv8 computer vision with depth verification and volumetric analysis to calculate repair needs and dispense micro-concrete using a screw conveyor mechanism.
- Focused on reducing human intervention, lowering maintenance costs, and improving road safety through a fully automated “detect-and-fill” workflow

EDUCATION

Mount Zion College Of Engineering and Technology, Pudukkottai, India — 2023-2027

B.E.Computer Science and Engineering

- **2026 - up to 5th Semester**
- CGPA: 8.08

Alagappa Matriculation Hr. Sec School , Karaikudi — 2020

- 12th
- 61.5%