

Karthik Manikandan

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About Me

A detail-oriented and adaptable engineer with a strong passion for full-stack development, cloud computing, cybersecurity and IoT systems. Continuously learning and experimenting with front-end technologies, automation, hardware-software integration, and network-driven solutions through personal projects and hackathons. Skilled in translating complex ideas into user-friendly applications while leveraging cloud infrastructure and secure communication models for efficiency. A proactive communicator with proven leadership experience, fostering teamwork, creativity, and technical depth. Currently seeking an internship to expand expertise in IoT, embedded systems, and network-driven platforms, while bringing fresh and innovative approaches to real-world challenges.

EXPERIENCE

Drone Engineering and Programing

2025

- Gained hands-on experience in drone assembly, calibration, flight controllers, GNSS systems and exposure to VTOL and UAV tech at Nova Aerospace, Karaikudi.

Project intern at IIT Madras

2024

- Provided front end development support to create a dashboard for Pichandi Kulam forest foundation 2024.

PROJECTS

SIDEMEN Securities (2025)

Designed and implemented a smart network security solution that sits between IoT devices and the internet, ensuring secure communication and authentication using PKI and AES encryption. Integrated a web-based dashboard for real-time device monitoring, anomaly detection, and remote isolation. Developed a Windows-based proxy server to analyze traffic, detect malicious activity, and enforce DNS poisoning for unauthorized devices until admin approval. Technologies used: Next.js, nmap, Python, RSA, AES-256,

VisionAid – AI-Powered Assistive Dashboard for the Visually Impaired (2025)

Developed a Flutter-based smart dashboard that assists visually impaired individuals by integrating AI-powered object, text, and face recognition. Implemented real-time camera feed processing via Raspberry Pi/Arduino and OpenAI Vision for accurate identification of books, objects, and currency. Designed a haptic feedback system for intuitive interaction and accessibility. Technologies used: Flutter, OpenAI Vision, Raspberry Pi, Arduino, and TensorFlow

C-Sar - Denoising and Colorizing SAR Images Using CNN models (SIH 2024)

Developed a web application that integrates machine learning model for colorizing SAR images using generator and discriminator architecture in GAN aiding to surveillance and topography monitoring . Technologies used: Next.js, Tailwind CSS, Python, TensorFlow, Flask.

APTS - Ambulance Prioritized Traffic System using ML and AI Identification (2024)

Created a smart traffic route management System that detects and uses optimal path to provide a ambulance in emergency state route to nearest hospital using microcontrollers and data processing using ml models

SKILLS

C#,C,Java,Python, PL/SQL, JavaScript, HTML5, CSS3,SQL,Web API, Flask, React, Next.js, React Native, Flutter,AWS,Internet of Things, Cloud Computing,Network Security, Network Monitoring, Vulnerability Analysis

EDUCATION

B.E Computer Science and Engineering

2022 - 2026

Sri Venkateswara College of Engineering (SVCE)