Arun Karthick N

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linkedin.com/in/arun-karthick-n | arun-karthick-n.github.io/Portfolio | github.com/Arun-Karthick-N

Education

K.L.N. College of Engineering Oct 2021 – Apr 2025

- BE Electronics and Communication (Honours) with **CGPA:** 8.41/10

AKNU S. Sundar Matric Higher Secondary School Jun 2020 – May 2021

- HSC in Computer Science – **Percentage:** 89.78

Skills

Languages & Web Technologies: C, C++, Embedded C, Python, Java, SQL, HTML, CSS

Microcontroller & Microprocessor: Arduino, Raspberry Pi, ESP8266, PIC16F877A, 8051, 8086

Developer Tools: Proteus, Keil, MATLAB, VS Code, MySQL, AWS, Google Colab, Git, GitHub, Supabase, Hugging Face

Protocols & OS: UART, SPI, I2C, MQTT, HTTP & linux, Windows

Concepts: Embedded System Design, Sensor Interfacing, RTOS (basic), IoT, OOP, DSA, SDLC, AI/ML

Professional Experience

Project Intern, K.L.N Innovation & Research Park – Sivagangai, Tamil Nadu Mar – Dec 2023

Laser Transmitter & Receiver Signal Coordination System for Land Leveling Unit

- Engineered a Raspberry Pi–based system in MicroPython for real-time elevation profiling with <2 cm accuracy, boosting land leveling efficiency for farmers by 25%. Optimized sensor networks and IoT data pipelines, enhancing the precision and performance of the embedded system.

Projects

Personal Portfolio Website Aug 2025

- Designed and deployed a fully responsive portfolio website featuring a clean, modern UI and intuitive navigation. Website achieved a Google PageSpeed score of 99/100, demonstrating performance optimization.
  Link: arun-karthick-n.github.io/Portfolio

SmartAgroBiz: ML-Powered Farming and E-Commerce Solution May 2025

- Built "SmartcropX" a cross-platform e-commerce and farming management mobile application, enabling real-time product listings, inventory control, and order management for 50+ simulated users. Integrated a machine learning crop recommendation model achieving 89% prediction accuracy to assist farmers in data-driven crop selection and yield optimization.

IoT Enabled Air Quality Monitoring System May 2024

- Tracks 150+ pollutants in real time using IoT integration, utilizes MATLAB for data visualization, and employs Twilio API for automated emergency call alerts via API triggering. Improved hazard detection accuracy by 40% through real-time monitoring and alert automation.

Smart Energy Management System Using IoT Feb 2024

- Optimized power usage and reduced overall energy consumption by 15% through an IoT-based smart energy management system using Raspberry Pi, implemented wireless on/off controls for 5+ household devices, enabling 100% remote monitoring and seamless home automation within a local area network.

Automatic Plant Irrigation System Mar 2022

- Engineered an automatic irrigation system integrating soil moisture sensors to monitor soil conditions in real time and automatically control water flow. Optimized watering cycles through targeted irrigation, reducing overall water consumption by 20–30% while maintaining optimal soil health and ensuring consistent plant growth across multiple test environments.

Certifications

- **C for Everyone: Programming Fundamentals** (University of California, Coursera)
- **Introduction to Industry 4.0 and Industrial Internet of Things** (NPTEL)
- **Python** (Spoken Tutorial, IIT Bombay)
- **TCS iON Career Edge - Young Professional** (TCS iON)