

KARTHIKKUMAR.M

Embedded Firmware Developer

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SUMMARY

I am an experienced Embedded Developer with 5.6 years of expertise in the embedded field. For the past 2.7years, I have focused on embedded firmware development, honing my skills in microcontroller programming. prior to this, I worked as an Embedded Tester and Hardware Engineer for three years, gaining in-depth knowledge of hardware systems and testing methodologies. I am passionate about firmware development and eager to contribute to your team, share my knowledge, and learn from new projects to drive innovation and growth within the company.

TECHNICAL SKILL

- Microcontroller architectures and familiar with 8051, ARM, PIC, DSPIC, TMS320, ESP32, ARDUINO
- Familiar with the following modules GPIO, ADC, DAC, TIMER, INTERRUPT, COUNTER, PWM, Watchdog, Protocols UART, I2C, SPI, CAN
- Software Tools and Familiar with KEIL - IDE, MPLAB X - IDE, ARDUINO IDE, CCS, PROTEUS SIMULATION
- Familiar with DWIN TOUCH DISPLAY ,GSM-800L, Bluetooth - HC05
- Good at C programming and logical thinking
- Good at Embedded C programming for microcontrollers
- Basics of C++
- Familiar with Oscilloscope, Multi meter, Debuggers
- Capable of soldering SMD packages like 0806
- Rapid Prototyping

PROFESSIONAL EXPERIENCE

SRM TECHNOLOGIES PVT.LTD - CHENNAI

EMBEDDED DEVELOPER | 2024 - 2025(8Months)

Key Responsibilites

- Pre Firmware developing for Peripheral as per Project specific.
- Developing Low Level Drivers for ADC, TIMER, UART, CAN, GPIO, etc..
- Involved in process document preparation.
- Creating Unit Test cases.

TEXTILE ELECTRONICS LAB - POLLACHI

EMBEDDED DEVELOPER | 2022 - 2024(1.11Years)

Key Responsibilites

- Research, develop, verify, and release embedded firmware
- Responsible for problems that come after releasing firmware
- Develop rapid prototyping for additional modification.

SAVIO INDIA PVT.LTD - POLLACHI

PCB SERVICE ENGINEER | 2021 - 2022(1.11 Years)

Key Responsibilites

- Implement testing for new modules and sensors with the help of reference documents
- Collaborate with team members and analyze the hardware failures.
- Implement hardware testing to ensure smooth running of projects
- Writing Firmware for internal factory Automation

BESPOKA PVT.LTD - CHENNAI

EMBEDDED TESTER| 2018 - 2019(1 Years)

Key Responsibilites

- Collaborate with the R and D team to test the functionalities of the firmware
- Create test cases and maintain bug reports as per the standard
- Implement end-user-level testing and troubleshooting pcb problems
- Provide customer support for handling guides and to get the maximum efficiency

PROJECTS HANDLLED

1. AUTOMATIC WATER LEVEL CONTROLLER -MICROCONTROLLER - 8051

- This project aims to address water wastage issues in both commercial and residential settings. I developed an automatic system to efficiently control the water level by turning the motor on and off as needed. This solution ensures optimal water usage and prevents overflow, contributing to sustainable water management.
- Responsibility : FIRMWARE DEVELOPER

2. MEDICAL GAS ALARM SYSTEM -MICROCONTROLLER - ESP32

- This project focuses on continuously monitoring medical gases, such as oxygen, nitric oxide, and vacuum, in hospital environments. The system displays real-time gas levels on a display screen and automatically sends alerts to the appropriate personnel when any gas level reaches its threshold value. This ensures timely response and enhances safety standards in medical facilities.
- Responsibility : FIRMWARE DEVELOPER

3.SOLAR TICKLE CHARGER

- This project focuses on continuously monitoring the car battery voltage. When the battery voltage drops below a defined threshold, the system automatically switches to charging mode and recharges the battery using solar power. Once the battery reaches the full charge level, the charging process is stopped to prevent overcharging.
- Responsibility : FIRMWARE DEVELOPER

EDUCATION

BACHELOR OF ENGINEERING IN ELECTRONICS AND COMMUNICATION

Pollachi Institute of Engineering and Technology 2014 -2018

HIGHER SECONDARY

Forest Hill Academy Matriculation Hr.Sec.School 2012 – 2014

SSLC

NGNG Hr.Sec.school 2013 – 2014

LANGUAGE

- Tamil
- English

PERSONAL INFORMATION

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Date

Signature