

GANGAVARM NAVEEN KUMAR

Embedded software engineer

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Objective:

To attain a challenging position in an organization, where I can apply my knowledge and skills for the mutual development of the organization and myself.

Professional Profile:

- Embedded Software Test Engineer with 1.5 years of hands-on experience in the automotive HVAC domain, contributing to the S40 MCR project with a strong focus on test case development, integration testing, and defect identification.
- Successfully implemented test cases aligned with test objectives for critical modules including BSP (WiFi, Display, Watchdog Timer), Schedulers, and Network Connectivity, raising significant bugs across both developer and system engineering teams.
- Performed patch testing for BGateway modules using C/C++, and completed 60% regression testing on the latest thermostat release, utilizing tools like WinSCP, PuTTY, and VS Code for deployment and debugging.
- Previous experience in Smart Energy Meter development, contributing to both hardware implementation and firmware development using Keil compiler and Philips Flash Utility, with coding in C.
- Proficient in working with microcontrollers such as ESP32 and LPC2148, and experienced in communication protocols including UART, SPI, I2C, CAN, ADC, along with hands-on debugging via RS232 and RS485 interfaces.

Technical Skills:

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| • Languages | : C, C++ |
| • Microcontrollers | : ESP32, LPC2148 |
| • Communication Protocols | : UART, SPI, I2C, CAN, ADC |
| • Testing Tools & Utilities | : WinSCP, PuTTY, VS Code, Philips Flash Utility, Keil |
| • Operating Systems | : Windows |
| • Compilers | : Keil Compiler, GCC |
| • Debugging Interfaces | : RS232, RS485 |
| • Core Concepts | : Data structures, Embedded Systems, OS, LINUX |

Educational Qualification:

- Annamacharya institute of technology and sciences Tirupati. (2019 - 2023)
Bachelor Of Technology (E C E) – 74%

- NRI ACADEMY(2017 - 2019) MPC - 91%
- SRI KAKATHIYA HIGH SCHOOL (2017) SSC – 73%

Professional Experience:

- Currently working with Randstand India from Nov 2024 to Till Date

Project:

Project : S40MCR – Smart Thermostat System

Client : Lennox International (HVAC Domain)

Duration : Nov 2024 to Till Date

Role : Software test engineer

Description:

Worked on the S40MCR project, an advanced upgrade to the existing S40 thermostat used in residential and commercial environments. Lennox International specializes in HVAC solutions including air conditioners, heat pumps, and ventilators, and the S40MCR thermostat enables smart control over these systems.

As part of the software testing team, I contributed to ensuring the reliability and performance of the thermostat by developing and executing test cases for modules such as BSP (WiFi, Display, Watchdog Timer), Schedulers, and Network Connectivity. The thermostat provides users with remote and automated control over HVAC systems, enhancing energy efficiency and comfort.

Project Responsibilities:

- Developed and executed test cases for embedded modules such as BSP (WiFi, Display, Watchdog Timer), Schedulers, and Network Connectivity, ensuring alignment with defined test objectives.
- Identified and reported critical defects across both developer code and system engineering layers, contributing to improved software stability and performance.
- Performed patch and regression testing on BGateway modules using C and C++, completing over 60% regression coverage for the latest thermostat release.
- Utilized tools like WinSCP, PuTTY, and VS Code for code deployment, debugging, and log analysis throughout the testing lifecycle.

Project : Smart Energy Meter for Remote Monitoring and Control.

Company : Neotech solutions.

Duration : Oct 2023 – Mar 2024

Role : Software engineer

Description:

Designed and developed an IoT-based Smart Energy Meter aimed at preventing power theft, enabling automatic bill generation, and minimizing human intervention. The system monitors real-time energy consumption, generates accurate billing data, and sends it directly to users, allowing them to pay via net banking. Additionally, the system provides remote control of home appliances from anywhere in the world, enhancing convenience and energy management. The project was implemented using C programming, integrated with microcontroller ESP32.

Project : Railway Safety System Using Crack and Object Detection Technology.

Company : Radar technical centre(internship)

Duration : May 2023 – Oct 2023

Role : Software engineer

Description:

Developed an embedded system designed to detect cracks or obstacles on railway tracks in real-time, enhancing safety and preventing potential train accidents. When a crack or object is detected, the system immediately sends an alert message to nearby control centers, enabling authorities to take timely action and avoid collisions. This project aimed to improve railway infrastructure monitoring by automating fault detection and minimizing human intervention using sensor-based technology.

Hobbies :

- Playing cricket, badminton
- Listening Music

Languages : English, Telugu

Declaration:

I here by declare that the above provided information is true to the best of my knowledge and belief.

G.Naveen kumar