

CHINNI VENKATA ARUN KUMAR

OBJECTIVE

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Having 4 Years of experience and to place myself in a well-developed organization where I can apply my functional and technical expertise, innovativethinking, and hardworking capability to become a successful IT professional.

PROFESSIONAL PROFILE

- A professional with four years of experience in Embedded Software for various controllers.
- Hands on experience on firmware development 8,16,32-bit micro controllers.
- Having proficiency in programming and debugging using C, Embedded C and C++,Micro Controller
- Working knowledge in protocols such as UART, I2C, SPI, CAN, TCP I/P.
- Experience in analyzing requirement specifications and writing requirements based on the customer using Doors and DNG.
- Ability to work in a fast-paced environment and communicate effectively across multiple locations and teams.
- Proficient in problem solving and collaboration.

EDUCATION QUALIFICATION

- B. Tech-Electronics and Communication Engineering in Lovely Professional University, Phagwara-2018
- Intermediate in Narayana Junior college, Visakhapatnam -2014
- S.S.C in Bhashyam Public School, Visakhapatnam -2012.

PROFESSIONAL EXPERIENCE

- Worked as Software Engineer at **Qness Corp** from oct 2021 to feb 2024.
- Worked as Associate Software Engineer in **TCS** from Jan 2020 to sep 2021.

TECHNICAL PROFILE

- Programming Languages : C, C++, Embedded C.
- Development & Debugging Tools : Visual Studio, Code Composer Studio, STM32, GDB, GIT, MISRA.
- System on Chip : STM32F07, IFX, APDS5560,MSP53059.

WORK DESCRIPTION

Project-1: Industrial Predictive Maintenance System

Languages : C, C++, and C#
Tools : Visual Studio GCC compiler, Code Compiler Studio

Project Description:

The Main of this project was data-driven insights to predict and prevent equipment failures before they occur. It leverages various technologies like IoT, machine learning, and analytics to monitor the health of machinery and predict when maintenance is required.

Role & Responsibility:

- Developed and optimized code to interface with industrial sensors (temperature, vibration, pressure) for real-time data collection in predictive maintenance systems.
- Designed and integrated communication protocols (e.g., SPI, I2C, UART) for reliable data transmission between embedded systems and central servers or cloud platforms.
- Developed and designed for generating real-time alerts based on sensor data, triggering maintenance actions to prevent equipment failure.
- Performed thorough testing and debugging of embedded systems to ensure that the predictive maintenance functions operate without failure under industrial conditions.
- Implemented embedded solutions for local data storage and periodic synchronization with central servers for long-term performance tracking and maintenance scheduling.

Project-2: Medical Device Firmware

Languages : C, Embedded C, Linux, GDB
Tools : STM32, DDR Tools, Visual Studio, J-Tag.

Project Description:

The main aim of this project was to develop and implement embedded firmware for a portable medical monitoring device that accurately measures vital signs such as heart rate and blood oxygen levels, providing real-time data for healthcare professionals.

Role & Responsibility:

- Designed and developed firmware for a portable medical monitoring device (e.g., heart rate, blood pressure monitor) using Embedded C on [microcontroller, e.g., STM32].
- Programmed firmware for storing patient data securely on EEPROM and transmitting it via Bluetooth or Wi-Fi for remote monitoring by healthcare providers .
- Developed simple user interfaces using LCDs and LEDs for displaying vital signs and device status to users in real-time.
- Created detailed documentation for firmware design, development process, and testing results to ensure compliance with regulatory requirements and ease of future updates.
- QAC fixes for the code and implementing G-test.

Project-3 : IMX8 QUAD MINI For POS Systems

Languages : C, Embedded C, Linux, GDB, Micro Controller

Tools : NXP Pins Tool, DDR Tools, Visual Studio, AUTOSAR

Project Description:

Project aim is to develop required features and target POS printers in Airport terminal and in restaurant vending machines such as user menu, Display integration.

Role & Responsibility:

- Generating Yocto Linux Platform for Imx8m Mini processor using Sd card Responsible for Board bringing up.
- Design the overall architecture of the POS system integrating AUTOSAR components.
- Define system interfaces and communication protocols.
- GSM, GPS Module Integration with I.MX8M MINI.
- Establishing the communication between STM Controller and I.MX8MMINI Processor.
- User Space Application for accessing information like UART, I2C, GPIO With I.MX8M MINI.
- USB Camera Integration with I.MX8M MINI Using Streamer.
- Develop and implement AUTOSAR-compliant software components, including application software and services.
- Work on the integration of RTE (Runtime Environment) with the i.MX8 hardware.
- Optimize software for performance and memory usage on the i.MX8 platform.
- Integrate AUTOSAR modules with existing POS system hardware and software.
- Conduct system-level testing and validation to ensure proper integration of components.
- Troubleshoot integration issues and implement necessary fixes.
- Develop test plans and test cases for AUTOSAR components in the POS system.
- Manage AUTOSAR software configuration, version control, and change management.
- Ensure that all software components are properly documented and tracked throughout the project lifecycle.
- Facilitate configuration management reviews and audits.
- Provide technical guidance and support to the project team on AUTOSAR-related issues.
- Oversee the development process and ensure timely delivery of project milestones.
- Ubuntu 18.04 Porting on I.MX8M MINI and Fixing Misra warnings.

Project-4: RCTM (Rear Cross Traffic Reaction Module) ADAS

Languages : Embedded C.
Software Tools : IPG Car Maker, MTS, match box.
OEM : Mercedes Benz, Daimler

Project Description:

RCTM (Rear Cross Traffic Reaction Module) is an assistance function that can assist the driver in detecting vehicles in the rear side he is not aware of/It is an assistance function that can detect approaching vehicles from the rear side that cannot be easily seen in junctions due to various obstructions, depending on the criticality of the situation.

Role & Responsibility:

- Analyzing the video recordings from the actual car and checking for the functionality as per algo requirements.
- Responsible for Unit test, Gtest and QAC.
- Having a real time knowledge on evaluating the functionality of the car at Germany.
- Responsible for adjusting the code based on requirements and merging with the head repo.
- Analyzing the recordings and performing the algo level test to verify the warning, brake and prefill are activated based on the requirement.

Declaration

I here by declare that the above-mentioned information is correct up to my knowledge and I hear the responsibility for the above-mentioned particulars.

Date:

Place:

Signature

Chinni Venkata Arun Kumar