

YADUNATH R

EMBEDDED SOFTWARE ENGINEER ,BOSCH

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Professional Experience

Embedded Engineer II, Honeywell, Bangalore

Jun 2025 - Present

- Implemented internal temperature sensor for the Beslite project.

Software Engineer, BOSCH, Bangalore

Sep 2022 - May 2025

- Contributed to the development of **radar** and **DASY** systems using the **Infineon TC39 microcontroller** and **QAM8650**.
- Implementation **Wisun** mesh network on **CC1354** and merged it with Silicon lab boards
- Implementation **Functional safety** features compatible **ISO26262** for DASY project for VW MPC1 project using **PMIC** and **S32G** microcontroller.
- Developed and implemented **diagnostic stack** for automotive platforms using **QNX** and **FreeRTOS**, with a focus on the **UDS** (Unified Diagnostic Services) protocol for fault detection, data retrieval, and diagnostics management.
- Leveraged expertise in real-time OS environments to enhance platform reliability and compliance with industry diagnostic standards.
- Optimized processes to cut testing time by 10%.
- Executed cross-functional collaboration between hardware and software teams, ensuring 100% compliance with **CAN** protocols.
- Automated** the testing process and reduced execution time by 75 %.

Deisgn Engineer, L&T, Mysore

Sep 2018 - Jan 2020

- Led software development for three-phase energy meters and **LTCT meters** using the **RL78/I1C (Renesas) 16-bit** microcontroller.
- Devised **display driver** for **7 segment LCD** display
- Developed an interface for **IrDA** communication and **CRC error checks**, shortening the process by 75%.
- Implemented **bi-directional meters**, ensuring 100% enhanced functionality ,supporting **I2C,DLMS,RF** protocols

Education

B.Tech in Electrical and Electronics Engineering

Jul 2014 - May 2018

TKM College of Engineering,Kerala

CGPA: 9.34/10(Univerity Rank 6)

Projects

Thermometer Development using PIC Microcontroller *Tools -PIC,MPLAB IDE,LM35*

Jan 2018

- Created a thermometer that measures temperature with an LM35 sensor and a **PIC16F877A** microcontroller, displaying the readings on a 7-segment display.

Password Protector using MSP430 Microcontroller *Tools-MSP430,Code composer studio*

Jan 2019

- Developed a tool allowing users to lock and unlock systems with a password, increasing security and ease of use.

Reactive Power Compensation using Infinite Level Inverter *Tools -Matlab,Simulink*

Jan 2018

- Designed a new **VSI** topology that increases voltage levels and improves **DC link** use, making reactive power compensation more efficient.

Applications Engineered *Tools -Microsoft Visual Studio,C#*

- Engineered an application for **IrDA communication**, **CRC** calculations, and **security key generation**, reducing error rates by 30% and processing time by 25%.

Technical Skills

Programming: Embedded C/C++,Linux,HTML,CSS,Python,C.

Protocol: I2C, UART, CAN, SPI.

Tools: Matlab,Simulink,Vector tools,Git,JIRA,Trace32,Vteststudio

Familiar: Assembly,Linux,Device Drivers,RTOS,ARM Processors,RISC-V,CISC,Autosar,,LDO, Embedded Systems,Oscilloscope,Operating Systems,Logic Design,Oscilloscope,MCAL.

Soft Skills: Debugging Skills,Problem-Solving Skills,Hardware ,Product Development,System Development,Feature Development,Data Structures and Algorithms,Communication and Presentation Skills.

Relevant Coursework

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|---------------------------|------------------------------|----------------------------|----------------------------|
| • Linux Device Drivers | • Embedded Linux Step | • Memory management in | testing IIT Madras. |
| • Linux fundamentals | by Step Using | Linux Kernel. | • STM32Fx |
| • Understanding Operating | Beaglebone Black | • Debugging in Linux | Microcontroller Custom |
| System | • Embedded Driver | Kernel deep. | Bootloader |
| | development. | • Embedded Software | Development |

Certifications

- Embedded code for production code generation-Matlab
- Problem Solving(Basic) Certificate-HackerRank

Academics Accomplishments & Extracurricular

- Graduated with **Kerala University Rank of 6.**
- Solved **100+ Leetcode** problems.
- Received Gopalan memorial scholarship from DGP for the securing **highest mark in the state** for SSLC.
- Selected in **HAL ,CSL,HPCL,Management trainee.**
- **Secured AIR:2000 in Gate 2021**
- Received award for **Innovation** in **L&T**