Arun Narecode Radhakrishnan

Electrical and Embedded Systems Engineer

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Profile

Electrical Engineering graduate, currently in final semester, with Master of Science from California State University with over six plus years of experience, that includes firmware and embedded software development,testing of safety critical automotive electric power trains & Photo-voltaic based Residential Home energy management systems

Areas of Expertise/Interests

Embedded Software - Firmware - Functional Safety - Battery Management Systems - Verification - Validation - HIL Testing - Model Based Software Engineering - Machine Learning - Internet Of Things - Systems Engineering

Skills

- **Programming and System design :** C, C++(Intermediate), Python, MATLAB
- **Tools:** Visual Studio Code,INCA, Canoe, CANalyzer,MPLAB, STM32CubeIDE,MATLAB,ASCET,SIMULINK, Logic Analyzer, Digital Oscilloscope, KiCad, PLS UDE (Aurix Tri-core), & JTAG for ARM-Cortex M family
- **Communication Protocol:** Bluetooth,I2C,SPI, UART & CAN
- **Real Time Operating Systems:** Zephyr, FreeRTOS, Linux(intermediate)
- **Micro Controllers:** Nordic,AVR, PIC, STM32, PSOC5, Infineon Aurix
- **Software Version Control Tools:** Doors, AEEE Eco, IBM RTC, GitHub
- **Debuggers:** PLS UDE (Aurix Tri-core), & JTAG for ARM-Cortex M family

Work Experience

Senior software engineer(functional safety), *(Robert Bosch GmbH)* **India** *09/2018 - 06/2022*

- Responsible for Functional safety software module development as per ISO26262 part 6 for the Bosch Electric vehicle power train modules: Lithium ion Battery management systems, Gen3, Gen3evo and Gen4 Inverter. Managed and optimized software testing, resulting in a 5% increase in quality and detecting software bugs before the release versions.
- Worked along with system teams for functional safety ISO26262 parts 3(Concept phase), 4(Product development at the system level) and 6(Product development at the software level) for the Item to meet the client requirements.
- Verified the safety goals of the embedded software by testing it on the HIL system(Labcar) using PLS UDE debugger for TriCore derivatives of AURIX Microcontroller Family(TC39x, TC27x, TC29x)
- Updated the requirements and documentation for all software modules as per the development life cycle process.
- Represented the team for internal safety assessment audit of safety software modules.
- Acted as a point of contact between system safety team and software engineering team, took steps to plan and coordinate the development process and delivered the safety software modules that met quality standards.

Staff Engineer (Embedded software developer), *(Amrita Center for Nano Sciences)* **India** *06/2014 - 08/2018*

- Responsible for firmware and software development for energy management of the Photo Voltaic cell powered household Inverters and off-grid charge controllers for battery systems under 1KVA -10 KVA.
- Responsible for verification of the embedded hardware circuit schematics for the charge controller .
- Acted as a point of contact between different engineering teams, resulting in clear communication and detailed refining of the requirements between them.

Education

MSc Electrical Engineering *California State University of Los Angeles* **Los Angeles, USA** *2022-2024*

Bachelor Electrical Engineering *Amrita University* **India** *2009-2013*

Relevant Courses: Advanced Embedded Systems, Machine Learning Principles and Applications, Vehicle Electrification, Wireless Communications, Digital Signal Processing, Linear System Analysis, & Electrical and Computer Engineering Computation.

Languages

- **English** [Native]