Vigneshwaran Ramalingam

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ABOUT ME

Accomplished professional with over nine years of expertise in embedded software development for the automotive industry, proficient in software development complying with ASPICE standards. Adept at fostering team collaboration, providing technical guidance, and delivering exceptional customer support.

HARDWARE AND SOFTWARE SKILLS

KEY SKILLS:

- STANDARD: ASPICE, Functional Safety - ISO 26262, Unified Diagnostic Services - ISO 14229, Cyber Security - ISO 21434.
- Programming Language: C and Embedded C.
- Framework: Agile Methodology, V Model, SCRUM.
- AUTOSAR Module: COM, DEM, DCM, NVM, BSWM, NM, RTE.
- Communication Protocol: CAN, CAN-FD.
- Microcontroller: Renesas RH850, V850 families and Microchip PIC 16 family.
- Working experience on communication protocol I2C and SPI UART.
- Scripting Language: CAPL, CMake.
- Coding Standard: MISRA C, Naming, Astree, Polyspace.

TOOLS KNOWN:

- AUTOSAR Configurators: AEEE pro Shar CC, Ecu Spectrum, Davinci Configurator.
- AUTOSAR Stack: Vector Stack and CUBAS Stack.
- Testing Tool: Tessy, VCAR, Cantata, Canoe.
- Change Management & Version Control: ClearQuest, ALM, Jira, ClearCase, Git.
- Requirement management: DOORS.
- Design: Enterprise Architecture.
- Testing/Simulation: CANalyzer, CANoE, CANape, Proteus Circuit Simulation.
- Debugger: Lauterbach Trace32.
- Flashing Tools: DSA, Green Studio, Xflash, Monaco.
- RTE Configuration Tools: System desk
- Runtime measurement Tools: Gliwa T1.

WORK EXPERIENCE

2/4/2023 – CURRENT Schwäbisch Gmünd, Germany.

SENIOR-SOFTWARE-ENTWICKLER, FERCHAU GMBH

Project: Electric Power Steering Control Module Software for Commercial Vehicle.
Client: Robert Bosch Automotive Steering GmbH, Schwäbisch Gmünd.
Responsibility: BSW Configuration and SW Development.
Customer: Daimler Turks And TRATON.

- Implementation of Secure Access Protection (Secure Proprietary Protocol- AZG).
- Conducted Cyber Security Verification i.e. Secure Debug Interface, ESB wiping, HSM state changes and Secure Flash.
- Experienced in AUTOSAR Communication Stack.
- Experienced in DEM, DCM and RTE configuration for Implementing UDS Features.
- Developed Application Software modules, Diagnostics, Error handler, CAN Input and Output handling.
- Developed Read/Write mechanisms for NVM blocks.
- Implemented Arbitration Rules, Mode Conditions, and Interface Ports using AUTOSAR BSWM for AZG Secure Access Protection.
- Involved in Bootloader Integration.
- Engaged in Root cause Analysis for customer reported issues.
- Resolved ECU Wakeup Issues (AUTOSAR NM Module).
- Supported Architectural Design modification activities and Implementation reviews.
- Derived Testspecfication and Automated DIT testing using CAPL scripts.
- Responsible for smoke tests, Software Unit Verification, Software Integration Test, Software Qualification Test.

14/6/2022 – 31/3/2023 LEONBERG, Germany.

SENIOR CONSULTANT, TECHNOLOGY AND STRATEGY ENGINEERING GMBH.

Client: Lotus/MRA2
Project: Braking System -BEG, Abstatt.
Responsibility: BSW Configuration and SW Development.
- Experienced in Development of Communication Stack.
- Experienced in DEM, DCM and RTE configuration for Implementing UDS Features.
- Errata analysis for BSW modules.
- Implementation of message handling above RTE.

1/1/2020 – 31/5/2022 COIMBATORE, India.

SENIOR SOFTWARE ENGINEER, BOSCH GLOBAL SOFTWARE TECHNOLOGIES PVT LTD.

Project: Development of the Highly Autonomous Driving Software - Electric Power Steering Control Module Software.
Responsibility: BSW Configuration and SW Development.
Customer: Volvo Car Corporation.
- Configuration of BSW modules AUTOSAR COM DEM, DCM.
- Development of compatibility logic in Bootloader integration.
- Involved in stake-holders meeting for testing methodology (Production testing, Durability testing).
- Implementation of message handling for CAN, UDS and Error Handling development above RTE.
- Handling the Customer reported issue, EOL issues and internal issues as well.
- Conducting a Technical Realization Discussion to change the version of AUTOSAR compliant BSW modules.
- Debugging of various internal and customer reported issue and providing the solution.

11/7/2016 – 31/12/2019 COIMBATORE, India.

SOFTWARE ENGINEER, BOSCH GLOBAL SOFTWARE TECHNOLOGIES PVT LTD

Project: Electric Power Steering Control Module Software.
Responsibility: BSW Development and SW integration.
Customer: Volvo Car Corporation and Geely.
- Implemented Diagnostic Module (UDS-ISO 14229) including AUTOSAR DEM/DCM Configuration.
- COM stack generation for Renesas v850 microcontroller by using AUTOSAR Stack.
- Vehicle configuration implementation of Volvo Specific.
- Worked on Architectural Design and Detailed Design.
- Implement the prototype software to provide open interface to the EPAS.
- Engaged in SW integration and integration testing for customer release (SWE4).
- Worked on Automation of Diagnostic tests and other Integration tests using CAPL Scripts.
- Integration Activities (i.e. make file adaptation Ebe Development).
- Integrate various AUTOSAR SW modules (BSW, RTE, Application SW-C) into the Project Build Environment.
- Supported in PNC Implementation topics.

19/5/2014 – 19/6/2016 CHENNAI, India

EMBEDDED SOFTWARE DEVELOPER, UNIQ TECHNOLOGIES.

Project: Automatic Street Light Control using RTC.
Responsibility: Software Development and Testing.
- Designed and developed Automatic Street Light Control using RTC.
- Requirement collection and Analysis. Coding in Embedded C.
- Designing Solution.
- Selection of components and procurement.
- Protocol design and Code development.

EDUCATION AND TRAINING

14/6/2010 – 9/5/2014 Coimbatore, India
B.E IN ELECTRONICS AND COMMUNICATION ENGINEERING Coimbatore Institute of Engineering and Technology.

LANGUAGE SKIL

ENGLISH: Proficient user (C2 Level).
GERMAN: Basic user (A2 Level).