‍‍NAGA RAVI VARMA DEVARAPALLI

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**CAREER OBJECTIVE:**

Seeking a challenging Embedded Software Engineer position where I can leverage my expertise in embedded software development to drive innovation and provide value to the organization.

**Experience:**

**May 2018 till present: Bosch Global Software Technologies Private Limited(BGSW) Bangalore**. Working as a **Lead Software Engineer** in Embedded Software Development Domain. Currently working **CARIAD Automatic Emergency Brake Feature development.**

**Professional Career Summary:**

* 6+ years of experience in Automotive ADAS software design, development, and testing, with a focus on embedded systems and application engineering.
* Proficient in C++ and unit testing using the GTest framework, with strong skills in software integration, defect management, and vehicle testing.
* Experienced in tools like Lauterbach Trace32, JIRA for defect analysis, IBM DOORS for requirement management, and Jenkins for CI/CT.
* In-depth knowledge of communication protocols (Flexray, I2C, UART), ASPICE processes, and ISO 26262 standards.
* Strong understanding of ECU hardware architecture, with hands-on experience in debugging, flashing, and testing on SIL, HIL setups.
* Experienced in Test planning, Testing Execution, Defect Reporting, Defect Tracking and Test Automation.

**Roles and Responsibilities:**

* **Individual Contributor/Programmer**: Developed and integrated embedded software solutions.
* **Requirement Engineering & Software Design**: Analyzed and documented requirements; designed scalable software architecture.
* **Unit Testing (GTest)**: Developed unit tests to ensure code quality.
* **ADAS Feature Development**: Contributed to Automatic Parking, Parking Assist, Cross Traffic Alert, AEB, MSS, and HMI.
* **KPI & Issue Analysis**: Analyzed KPIs and resolved system issues to improve performance.
* **Vehicle Software Integration & Testing**: Led integration and testing efforts for vehicle software in Germany.
* **Hardware Setup & Procurement**: Managed hardware test environments and device procurement.
* **SIL/HIL Testing & ECU Debugging**: Conducted system testing and ECU flashing/debugging.

**TECHNICAL SKILLS:**

* **Programming Languages**: C, C++, Python, OOP’s
* **Operating Systems**: Linux, RTOS, Windows
* **Protocols**: Flexray, I2C, UART & SPI
* **Tools**: Trace32, GIT, JIRA, DOORS, CANoe, CANape, Carmaker
* **Quality Standards**: ASPICE, MISRA, ISO 26262, QACPP Coding Guidelines
* **Testing Frameworks**: Google Test (GTest), SIL & HIL
* **Additional Skills:** Linux System Programming, Shell scripting.

**PROFESSIONAL EXPERIENCE**

**Lead Software Engineer**  
Bosch Global Software Technologies Private Limited (BGSW), Bangalore **May 2018 – Present**

**WORK EXPERIENCE**

**Project: Automatic Emergency Brake (Oct 2024 – Present)**

**Client :** CARIAD

**Role :** Lead Developer.

**Environment :** Visual Studio, ARM.

**Tools :** Trace32, GIT, SmartGit, DOORS, CANape.

**Programming Language:** C++

**Responsibilities:**

* Designed and implemented collision avoidance algorithms for the Automatic Emergency Braking (AEB) feature.
* Developed object classification algorithms to identify and prioritize obstacles relevant to collision scenarios.
* Primary point of contact for vehicle testing, coordinating with cross-functional teams.
* Analyzed issues reported by both the system testing and vehicle testing teams, identifying root causes and delivering timely resolutions.
* Conducted code reviews and systematically addressed MISRA-C rule violations, ensuring high standards of code safety and compliance in AEB algorithms.

**Project: Maneuver Steering Support (DEC 2022 –Oct 2024)**

**Client :** AUDI

**Role :** LeadDeveloper.

**Environment :** Visual Studio, ARM.

**Tools :** Trace32, GIT, SmartGit, DOORS, CANape.

**Programming Language:** C++

**Responsibilities:**

* Developed software for Maneuver Steering Support system features.
* Analyzed customer system requirements to develop product-specific functionalities.
* Designed high-level system architecture and conducted unit testing.
* Coordinated vehicle testing and facilitated integration with partner ECU systems.
* Responsible for KPI issue analysis and performance optimization.

**Project: Advanced Driver Assistance System (APC, CTA, AEB, HMI & TLA) (Aug 2019 -Dec 2022)**

**Client :** Mercedes Benz

**Role :** SeniorDeveloper, Function Owner.

**Environment :** Visual Studio, ARM

**Tools :** Trace32, GIT, Smart Git, DOORS, CANape.

**Programming Language:** C++, MATLAB (STATEFLOW & SIMULINK).

**Responsibilities:**

* Led the development of various ADAS parking features, including Automatic Parking, Remote Parking, and Cross Traffic Alert.
* Function Owner responsible for requirement engineering and alignment with product line and customer requirements.
* Developed high-level system design and conducted risk analysis.
* Conducted SIL and MIL testing for model-based development applications, improving performance and reducing defect rates.
* Responsible for Risk Analysis and Release Note for software deliverables.
* Delivered release notes and managed risk for software deliverables.

**Project: Low Speed Maneuver Guidance (May 2018 -AUG 2019)**

**Client :** JLR

**Role :** Team MemberDeveloper.

**Environment :** Visual Studio, ARM

**Tools :** Trace32, GIT, Smart Git, DOORS, CANape.

**Programming Language:** C++, MATLAB (STATEFLOW & SIMULINK).

**Responsibilities:**

* Developed software to support low-speed maneuver guidance, with focus on test simulations and hardware setup.
* Conducted requirement engineering to meet customer and product line specifications.

**ACHIEVEMENTS**

* Filed a patent in January 2024 for an innovative automotive software solution aimed at enhancing ADAS functionality.

**EDUCATIONAL QUALIFICATION:**

* **Tech in Electronics and Communication Engineering (ECE):** Andhra University, 2017
* **Technology Entrepreneurship Program:** Indian School of Business (ISB)

**PERSONAL DETAILS:**

* Date of Birth: 8th July 1996
* Languages Known: English, Telugu
* Nationality: Indian
* Hobbies: Playing cricket, farming

DECLARATION:

I do hereby declare that the above information is true to the best of my knowledge.

Date : 23-04-2025 D NAGA RAVI VARMA