Sourav Kumar Verma

Senior Software Engineer, Bosch

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Profile:

Senior Software Engineer with 4 plus years of experience in automotive industry in Bosch. Experience with software development, leading a software development team, collaborating with international teams, and prioritizing tasks to maximize the team output with efficiency and high-quality deliverables. Skilled C/C++ programmer and Autosar. Strong engineering professional with a Bachelor of Technology focused on Electronics and Communications Engineering.

Work Experience:

Senior Software Engineer, Active Safety

🏢 Robert Bosch Global Software Technologies, India

⏳ Jul 2021 – Present

- Diagnostic lead for global customer projects mainly for vehicles like the Ford F150 series in the USA, Ford Transit for Europe, Ford Raptor Ranger for Australia, and Fiat 281 for the USA.
- Configuration of **AUTOSAR** components in **DCM**, **CANTP** and Vector **CDD** (complex device drivers) modules using **Davinci** tool
- Expertise in design and development of features like **EPATS** security feature, Parsed Field load management, **Dyno mode** and software-based **variant handling** based on **V-Model** and **ASPICE** process complaint.
- Represent software team on **ASPICE Audits**
- As cluster lead planned implementation scope for a baseline/sprint and assignment of the task to a member 6 team.
- Conducted plans for defect reduction measures, competency improvement and performance enhancement of team members.
- Planning with Requirement Based Independent Test Teams to prepare test plans in alignment with the software development

Software Engineer, Active Safety

🏢 Robert Bosch Global Software Technologies, India

⏳ Sept 2019 – Jun 2021

- Great exposure of handling requirements in **IBM Rational Doors** throughout the project lifespan.
- Created efficient high-level and low-level designs with the help of **Enterprise Architect**.
- Responsible for analyzing Diagnostic Communications related requirements from the customer and acted as a point of contact for requirement clarification, and analysis for Ford Global projects.

Associate Software Engineer, Active Safety

🏢 Robert Bosch Global Software Technologies, India

⏳ Sept 2018 – Aug 2019

- Having exposure to writing **C code** with **MISRA** compliance and maintaining the code with minimal bugs for the entire project lifetime.
- Executed unit tests, component tests, and integration tests on **LabCar,** Hardware in Loop **HIL,** Software in Loop **SIL,** and Simulation-based test environments using tools like **Canalyzer**, **XFlash**, **TkWinx** and **HP Quality Center**.
- Contributed to automation to reduce repetitive work and increase productivity using **Python** scripting using libraries like Pandas and Flask.

Education:

🎓 C V Raman College of Engineering, Bhubaneswar, India

Bachelor in Technology in Electronics and Communications Aug 2014 – Apr 2018

Languages:

- English (Native, Bilingual) – Cambridge University Certified Business English
- Hindi (Native, Bilingual)

Skills:

Requirement Engineering	: IBM Rational DOORS
Design	: Spark Enterprise Architect, MS Visio, MS Word
Coding & Software Development	: Embedded C, C++, Geny, SharCC, AEEE, Da Vinci, Candela, Autosar
Testing	: Canalyzer, XFlash/EasyFlash, Tk Winx, Diagnostic Engineering Tool, HiL, SiL, HP Quality Center
Work Flow	: IBM Jazz, IBM CSCRM, TCM
Domain Knowledge	: UDS ISO 14229, RTOS, Diagnostics, Security Encryption-Decryption AES, MISRA, ASPICE, SDLC, V-Model, Braking systems, , Field Load Management, Passive Anti-Theft Security

Projects:

🗂️ UDS (Unified Diagnostic Service Software Development based on ISO 14229)

Working as a Diagnostic Function Owner for ABS/ESP/IPB ECUs for Ford vehicles. I was mainly responsible for the complete Software Development Life Cycle (SDLC) of UDS component as per ISO 14229. Development (AEEE-Pro (AUTOSAR configuration tool from Bosch) and eclipse) and testing on the bench using Renesas-based ECU.

Technologies: ISO 14229, UDS, Autosar, Embedded C/C++

🗂️ EPATS (Encrypted Passive Anti-Theft System for Security)

Security Access is used to restrict access to certain data and configurations within the ECU using security services, the access to safety-critical data can only be provided to the user upon successful authentication using seed-key mechanism AES encryption and decryption were used to realize this cyber security feature.

Technologies: AES Encryption and decryption, C/C++, State Machines

🗂️ Dyno Mode

Dyno mode is a feature that enables a vehicle to be operated on a dynamometer to perform accurate emission and fuel economy testing. Starting from Requirements gathering and analysis, mapping those requirements in DOORS (Requirement Management Tool from IBM), software HLD and LLD in Enterprise Architect (Design tool) and software implementation in compliance with MISRA standards was done to realize this feature

Technologies: Embedded C/C++, API Development, Enterprise Architect, MISRA C

🗂️ Software Based Variant Handling

This feature was developed for vehicles where the same platform is used to create multiple variants of the vehicle based on the features/VAFs supported by the vehicle. ECU configuration data identifiers were used to take inputs at the end of the line station of the vehicle and update the parameter in software after validation checks.

Technologies: Non-Volatile Memory, API Development, C/C++

🗂️ PARSED (Processing and Reporting System for Efficient Data)

PARSED provides a unified system for accessing deep ECU data and reporting it to the Ford Cloud. PARSED as a system utilize OVTP communication channels to send the data from the ECU to the Cloud. PARSED components are located in the ABS ECU and are used to send internal ECU data. The device driver for PARSED will be received from Vector and the received Package need to be integrated into ABS ECU and Project-specific implementation is to be done as per the requirement from the customer.

Technologies: On-vehicle telematics protocol (OVTP), Embedded C/C++, Autosar

Certifications/Awards:

🏆 Won multiple spot awards at Bosch for technical & leadership excellence and automation tool development.

🎓 Cambridge English Entry Level Certification in ESOL International

🎓 Embedded Systems & Robotics Certification - SSEPL

Personal Profile:

Name	: Sourav Kumar Verma
Date of Birth	: 27th July 1995
Gender	: Male (He/Him)
Marital Status	: Unmarried
Nationality	: Indian