

# 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 the international teams, 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 in 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 Ford F150 series in USA, Ford Transit for Europe, Ford Raptor Ranger for Australia and Fiat 281 for USA.
- Configuration of **AUTOSAR** components in **DCM**, **CAN TP** 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 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 plan in alignment with the software development

### Software Engineer, Active Safety


 Robert Bosch Global Software Technologies, India

 Sept 2019 – Jun 2021

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


### Associate Software Engineer, Active Safety

 Robert Bosch Global Software Technologies, India

 Sept 2018 – Aug 2019

- Have had great exposure in writing **C code** with **MISRA** compliance and maintained the code with minimal bugs for entire project lifetime.
- Executed unit test, 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:

<b>Requirement Engineering</b>	: IBM Rational DOORS
<b>Design</b>	: Spark Enterprise Architect, MS Visio, MS Word
<b>Coding &amp; Software Development</b>	: Embedded C, C++, Geny, SharCC, AEEE, Da Vinci, Candela, Autosar
<b>Testing</b>	: Canalyzer, XFlash/EasyFlash, Tk Winx, Diagnostic Engineering Tool, HiL, SiL, HP Quality Center
<b>Work Flow</b>	: IBM Jazz, IBM CSCRIM, TCM
<b>Domain Knowledge</b>	: 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 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 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 be only be provided to the user upon successfully authentication using seed-key mechanism AES encryption and decryption was 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 in order 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 the vehicles where 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 take inputs at the end of 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. Device driver for PARSED will be received from Vector and the received Package need to be integrated into ABS ECU and Project specific implementation as to be done as per the requirement from 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:

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