**Shiva Sharma**

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# -----------------------------------------Summary----------------------------------------------

* 9+ years of experience as a Software Developer, Software integrator and System Engineer in Active Safety products Anti-Lock Braking Systems (ABS), Electronic Stability Program (ESP) Electronics Control Unit (ECU) and Environment control system for Aerospace.
* Responsible for evaluating customer specifications including support of translating the system requirements into Rational DOORS (and related IBM based products), evaluating requirement, software Algorithm, coding, design and test coverage, and support of issue / defect tracking.
* Responsible for Diagnostic, Network and Communication software development for active safety with focus on brake system and integrating all aspects of EB100 Brake system.
* Ensure system and software development, validation, and delivery are according to guidelines and processes (e.g. Functional safety standard ISO 26262).
* Hands on experience in AUTOSAR (MCAL, RTE, NVM, DIAG, AUTOSAR COM, PduR, CAN stack) configuration and Integration.
* Experience in Manual Code, Model based development and testing method like Hardware in Loop, Model in Loop and Simulation in Loop.
* Experienced in Software development based on V and waterfall model.
* Green Belt Certified in Six Sigma.

# ---------------------------------------Technical Skills----------------------------------------

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| --- | --- |
| **Programming Languages** | C, Embedded C, C++, Perl script, Python, DXL script and Visual Basic script (for MS EXCEL and MS WORD automation), Linux |
| **Protocols** | CAN, UDS, TTP, FTP, TCP/IP, ARINC 429, AFDX (Avionic full duplex). |
| **IDEs /Tools** | Makegen, MATLAB Simulink, Vector CANalyzer, dSpace test automation software for ECU development, JTAG, IBM DOORS, Eclipse, IBM Rational Rhapsody, CANape, GIT, AUTOSAR Builder, DaVinci, Git, SourceTree, LDRA, JIRA, Bitbucket, CANalyzer, Diagnostics tools, Clear Case, Serena Dimension, Polyspace, MISRA, Custom Coding Std. Check, PC lint, SVN, Understand C, MS Word,MS Excel, MS PowerPoint. |
| **Compilers/Debuggers** | Makefile tool chain, Windriver, Solaris, MinGW |
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**----------------------------------------Work Experience-------------------------------------**

## Project # 1 [Veoneer, Souhtfield, MI] (Currently ZF, Farmington Hills, MI) (08/2019 to till the date) Title: Platform Software development for Ford P702 and T6 vehicle variants

**Job Title:** Software Engineer

## Role & Responsibility:

* + Responsible to develop Platform software from end to end using Makegen, AutoSAR builder, DaVinci, Git extension, SourceTree, JIRA, Bitbucket, GIT etc.
	+ Responsible for software integration, integration testing and software release to the customer.
	+ Hardware in loop (HIL) testing for software changes using Ford DET, CANape and Canlyzer tool.
	+ Unit testing using LDRA tool.
	+ Responsible to perform peer reviews.
	+ Responsible to break down system requirements.
	+ Responsible to communicate and co-ordinate with various teams such as validation and verification testing and system integration teams for any software related issues etc.
	+ Responsible for software issue analysis, root cause analysis and debugging the code.
	+ Support of system test environment, internal and customer discussion.

## Project # 2 [Honeywell Technical Solution Lab, Bengaluru] (12/2012 to 02/2019)

**Title: Software Development for Environmental Control System for Airbus A350 XWB aircraft Job Title:** Senior Engineer

**Description:**

* + The Environmental control system provides pressurized and temperature-controlled airflow to maintain a comfortable environment for the occupants of the airplane and provides a source for equipment cooling.
	+ Hot pressurized air from the compressor sections of the engines or the Auxiliary Power Unit (APU) is cooled through a series of processes by Environmental Control System (ECS) Air conditioning Packs (ACPs), remixed with some of high temperature bleed air to achieve the desired temperature, and then delivered throughout the airplane. Distribution ducts provide air to the cockpit, passenger cabin, and baggage compartment.

## Role & Responsibility:

* + Responsible for evaluating customer specification requirements including support of translating the system requirements to IBM rational DOORS, test coverage and support of issue/defect tracking.
	+ Responsible for the entire software development for ECS in C and Embedded C from start to finish using the software development tools MATLAB Simulink, IBM Rational Rhapsody and Eclipse.
	+ Responsible for the breakdown of high-level system requirements into low level design requirements as part of module design using the tool IBM Rational Rhapsody.
	+ Support of system test environment, internal and customer discussion.
	+ Complete software life cycle implementation through V model and waterfall model.
	+ Software integration and functional testing of entire ECS software on the targeted hardware.
	+ Responsible for software issue analysis, root cause analysis and debugging the code.
	+ Responsible for entire software release cycle to all the stakeholders and the customer.
	+ Diagnosis and CAN communication verification, using tool Vector CANalyzer.
	+ Continuous software configuration through Tortoise SVN, Serena Dimension and Clear Case tool.
	+ Tool Automation in Perl, DXL, VBA (for excel and word automation) and Python scripts in order to maintain continuous improvement, to achieve time reduction and more accuracy in the overall process.
	+ Responsible for the direct interaction with the end Customer (Airbus, France) and flow down the understanding of requirements to the rest of the team members.
	+ Responsible for the documentation phase of the software documents such as: Software Configuration Index (SCI), Software Design Document (SDD) and Software Accomplishment Summary (SAS).
	+ Responsible to communicate and co-ordinate with various team such as validation and verification testing and system integration teams for any software related issues etc.
	+ Prepare and communicate technical presentation for the customer.

## Project # 3 [Honeywell Technical Solution Lab, Bengaluru] (09/2011 to 12/2012)

**Title: System Requirement Specification for Environmental Control System for Airbus A350 XWB aircraft**

**Job Title:** System Engineer

**Description:** Same as Project # 2.

## Role & Responsibility:

* + Thorough analysis of customer requirements (System Equipment Specification and System Supplier Specification) and breakdown of customer’s requirements to develop the system requirements in IBM DOORS specific to each module.
	+ Understanding of System Equipment Specification document, which handles the sensors/actuators related requirements.
	+ Model Based development for complex software requirements using MATLAB Simulink.
	+ Responsible to develop CAN interface document for ECS in MS Excel format. Various CAN messages received and transmitted over the CAN Bus. This information has to be carefully extracted from System Equipment Specification document and further discussed used to be with end customer Airbus.
	+ Automated the development of interface document using VBA script for excel automation which saved the manual efforts by 7 days per cycle.
	+ Experience in Data structure and software algorithm.

## Project # 4 [Honeywell Technical Solution Lab, Bengaluru] (03/2011 to 09/2011)

**Title: Software Development for Environmental Control System for Gulfstream G650 and G650 ER aircraft**

**Job Title:** Senior Engineer

## Description:

* + Gulfstream G650 and G650 ER are business jet aircraft which can carry up to 18 passengers.
	+ The function of Environmental Control System (ECS) is to ensure the favorable temperature, pressure and humidity for aircraft passengers and crewmembers. It takes the compressed hot air from the engine and performs the air conditioning function, then distributes that air to cabin, cockpit and other parts of the aircraft.

## Role & Responsibility:

* + Responsible for complete Avionic application Software development for ECS in C and Embedded C from start to finish using the software development tool MATLAB, Eclipse and IBM Rational Rhapsody.
	+ Complete understanding of System Requirement Specification (SRS), received from customer.
	+ Design, code, review, testing, system integration and Traceability as per DO-178B/C guidelines.
	+ Software configuration management using tool Clear case.
	+ Responsible for complete documentation process.

# ----------------------------------Educational Qualification ----------------------------

**Bachelor of Technology** – Electronics & Communication Engineering,

Uttar Pradesh Technical University, Lucknow, (U.P) India. (Aug 2006 - June 2010)

**Post Graduate Diploma** – Embedded System Design, CDAC-ACTS, Bangalore, India. (September 2010 – February 2011)