

Jagpreet Singh Makkad

Contact No.: +917845849391

Mail Id: Jagpreet5370@gmail.com

Summary

- **6.5** plus years of total experience in embedded software and automotive domain
- Experience in System architecture design using SysML with various design tools.
- Experience in Software Architecture design with various design tools.
- Hands on experience in Matlab, Simulink and Stateflow
- Experience in creation of high level requirement documents
- Experience in creation of DFMEAs for different vehicle functions
- Rich experience in analyzing models in MATLAB
- Good knowledge in LIN and CAN protocol
- Excellent knowledge in handling various global and proprietary tools
- A good team player and has an ability to work in a team and individual environment

Experience

Duration	Organization	Role	Domain
July 2019 – Till Date	ZF India Pvt. Ltd.	Software Architect	Automotive Domain
Aug 2015- Jun 2019	KPIT Technologies Ltd	Systems Engineer	Automotive Domain
Jan 2015-Jun 2015	KPIT Technologies Ltd	Intern	Automotive Domain

Organization	ZF India Pvt. Ltd., Hyderabad		
Client	Volkswagen	Project	Software Architecture Design for Braking Software
Period	July 2019 – Till Date	Duration	2 yrs 10 months
Role	Software Architect		
Environment	IBM Rhapsody, Cobra IDE, MATLAB, Simulink		

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Project Description	Software architecture design for the Braking software. Identification of interfaces for various software components and creation of the static software architecture model in IBM Rhapsody. Creation of design level requirements and design in Simulink from architecture and establishing traceability adhering to ASPICE.
Contribution	<ul style="list-style-type: none">Analyzing the application software code in Cobra IDE.Identification of interfaces for various software components.Creation of software architecture in IBM Rhapsody.Creation of software detailed design in Simulink.

Organization	KPIT Technologies GmbH, Munich		
Client	BMW	Project	Software Architecture Design
Period	Jan 2018 – Jun 2019	Duration	1yr 5 months
Role	Software Engineer		
Environment	PTC Modeler Architecture Tool, UML Design		
Project Description	Creation of Functional Safety Software Architecture design. Defining the interfaces within Inverter Software for EV platform. Definition of CAN Signals, Sensor signals and other GPIO interface between Basic software and the Application Software.		
Contribution	<ul style="list-style-type: none">Analyzing the Interface documents from Client.Defining the Physical components of the systemCreation of interface diagrams between the Basic software and Application software componentsPerforming DFA for the Application Software.FMEA analysis for the interfaces at Application software.		

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Organization	KPIT Technologies Ltd, Pune		
Client	Audi	Project	System Architecture Design for Dynamic all wheel Steering System
Period	April 2017 – Dec 2017	Duration	9 Months
Role	Systems Engineer		
Environment	IBM Rhapsody		
Project Description	System architecture design for the Dynamic All wheel steering system. Analysis of System Requirements and system design for the Audi Dynamic All wheel steering system and creation of the Architecture model in IBM Rhapsody.		
Contribution	<ul style="list-style-type: none">Analyzing the System requirements in DOORsAnalyzing the System design from input documentsCreation of System architecture in IBM Rhapsody using SysML.		

Organization	KPIT Technologies Ltd, Pune		
Client	Fiat Chrysler Association	Project	PMBD- HLR
Period	Aug 2015- Mar 2017	Duration	1 year 7 Months
Role	Systems Engineer		
Environment	DNG, Matlab/Simulink/Stateflow, IBM Rational Rhapsody		

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Project Description	<ol style="list-style-type: none">1. Writing high level requirement documents for different Powertrain features. Analyzing the Simulink models, abstracting functions and preparing high level requirement documents. Written requirements for features like Throttle Sensor Rationality, Peddle Voltage sensor Rationality, LIN Communication, Fuel Evaporative system (EVAP) etc.2. Designing System Architecture for various automotive systems using SysML with IBM Rational Rhapsody tool.3. Creating seven modes DFMEA for different vehicle functions like Purge Flow, Evaporative leak monitoring system etc.4. Creating Simulink Models for different SW Components.5. Performing MIL/SIL testing on the created model.
Contribution	<ul style="list-style-type: none">• System level analysis based on Matlab models.• Creation of High level requirement documents.• System Architecture Design using SysML• Maintaining and storing requirements in DNG tool.• Creation of DFMEAs for various powertrain functions.• Reviewing peer's requirements.• Creation of Simulink Models for different SW Components.• Performing MIL/SIL testing on created Simulink models.

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Organization	KPIT Technologies Ltd, Pune		
Client	In-house development	Project	Unify tool Development
Period	Jan 2015- April 2015	Duration	6 Months
Role	Intern		
Environment	Matlab, Simulink, Stateflow		
Project Description	<p>UNIFY is a collection of multiple tools that are used in the engineering double V model, right from the Requirement Management to Integration Testing. These tools are StyleCheck, TestDrive (MIL, SIL and Re-eng), Reporting Manager and License Manager.</p> <p>TestDrive: This tool is used for Automated Testing, Used for MIL, SIL and Legacy-Auto Code Migration testing, Supports Reactis Test Vectors as Input.</p> <p>StyleCheck: This tool used for Compliance checks of different guidelines (MAAB, Custom) against MATLAB model and auto corrections for certain rules. Used in development stage for compliance check before going for production</p>		
Contribution	<ul style="list-style-type: none">• MATLAB Scripting and model design in Simulink and Stateflow.• Working for Proof of Concepts (POCs).• Unit level testing.• Integration testing.		

Top Skills

Skill	Tools/Technologies
High Level Requirement Writing	DOORs Next Gen
System Architecture Design	IBM Rhapsody, SysML, Capella, ARCADIA, PTC Modeler
Model Based Design	Matlab/Simulink/Stateflow
Embedded C, POSIX Thread Programing, RTOS Programing	Keil, Linux, VxWorks

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Education Summary

Degree	University
MTech	Vellore Institute of Technology, Vellore
Bachelor of Engineering	RGPV, Bhopal
12 th	State Board
10 th	State Board

Personal Data

Date of birth : 21-12-1990

Gender : Male

Nationality : Indian

Marital Status : Married