Harshit Agarwal

Software Developer
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EDUCATION

HINDUSTAN COLLEGE OF SCIENCE AND TECHNOLOGY (AKTU) 1 Jun 2017 - 17 Aug 2021
Bachelor of Technology Electronics and Communication Engineering City: Mathura Country: India
CGPA: 8.41

EXPERIENCE

TATA CONSULTANCY SERVICES LIMITED | Embedded Software Developer City: Pune Country: India | 5 Aug 2021 – Present

1. Central Power Distribution Box. (Ford Motors):

- Analyzed markups, created FS (Functional Specification), Data Dictionary, Models, code generation through embedded coder, and related deliverables, for CPDB.
- Supported the process setup for testing for Autosar-compliant models and code at various levels like Unit Level, Software Component Level and Composition Level Explored back-to-back testing at software component level through Simulink Test (MATLAB toolbox).
- Software Component creation, Polyspace analysis, Code review, automating processes through MATLAB scripting, Debugged Models, Target linking by using HDL coders to generate HDL codes, Validate and Verification, Synthesis RTL logic.
- Developed Integrated model and MIL (Model In Loop) and SIL (Software In Loop) testing of multiple functionalities of CPDB features in Simulink Autosar (FNV3/FNV2) architecture.
- Found bugs did troubleshooting of models and suggested corrections.
- Calculating estimated hours, creating Jira task, and assigning them to the team.
- MATLAB 2018b, 2016b and Polyspace 2019b used.

2. Automation Team. (Ford motors):

- Supported setting up DevOps tools and scripts for Unit Level, Software Component Level and Composition Level software development and validation.

3. FTIDE. (Ford motors):

- Creating FTIDE test suits for features of car design and test the functionalities and check test results in log analysis tool and improve test efficiency and cover test specification.

4. Power Bus Output Transform (PBOT). (Ford motors):

- Analyzed FS (Functional Specification), ARXML, SLDD and related deliverables, for PBOT.
- Developed model for different zonal, unit testing using test harness, exporting result using Simulink test manager, Run Model Advisory Check and Build Code.
- Software Component creation using ARXML for different zonal. SLDD linking, Validating Code Mapping, Run Model Advisory Check, unit testing using test harness, SIL (Software In Loop) testing, Build Code, Polyspace analysis, Code review.
- Created M3 Cfg signal in WinDx tool and exported the same in SLDD and another format.
- MATLAB 2021b, 2022b and Polyspace 2021b, 2022b used.

5. Working closely with senior members of the team, support teams to provide support and better understand company requests. Manage Technical issues, Development, and implementation of full life cycle of application.

6. Technologies used in this project are MATLAB, C, Polyspace, FTIDE, Automation Tools, Visio, Digital Electronics, MS Office, Version control (Git), GitHub, SharePoint, Agile, SCRUM, JIRA. etc.

SKILLS

Programming Languages	Java, SQL, Data structure and Algorithm
Libraries/Frameworks	Spring Boot Framework
Tools / Platforms	1. Integrated Development Environment (IDE): - IntelliJ IDEA - Eclipse - Spring Tool Suite (STS) 2. Build and Dependency Management: - Apache Maven 3. Version Control: - Git - GitHub or GitLab for hosting code repositories 4. Database Management: - Databases like MySQL, PostgreSQL, or H2 - Database clients MySQL Workbench 5. Web Development and Front-End Tools: - HTML/CSS/JavaScript editors (e.g., Visual Studio Code, Sublime Text) - Front end frameworks like Angular 6. API Testing: - Postman 7. Testing Frameworks: - JUnit8. Continuous Integration/Continuous Deployment (CI/CD): - Jenkins 9. RESTful API Documentation: - Swagger for generating API documentation 10. Collaboration and Communication: - Slack or Microsoft Teams for team communication - Jira for project management and issue tracking 11. Authentication and Authorization: - JWT libraries for securing APIs 12. Text Editors: - Sublime Text, Visual Studio Code, or Notepad++ for quick code editing
Databases	MySQL, PostgreSQL, or H2

PROJECTS / OPEN-SOURCE

EXAMPORTAL | Link Java, Spring Boot Framework, Spring Security (JWT), Hibernate, MySQL, Angular, Postman

- Developed a full-stack web application using Java, Spring Boot for the backend and Angular for the frontend.
- Implemented user registration, authentication, and role-based authorization for writers and readers.
- Utilized Hibernate for database interaction, ensuring efficient data storage and retrieval.
- Developed RESTful API endpoints for User and Admin management, exam creation, and result tracking, improving the overall user experience.
- Utilized Postman for comprehensive API testing, including endpoints for user registration, exam submission, and result retrieval.
- Created a dynamic and user-friendly frontend using Angular, providing an intuitive interface for candidates and administrators.
- Implemented JWT (JSON Web Token) authentication for secure user access.