Aayush Vashishth

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CAREER OBJECTIVE

- To excel in the automotive embedded validation domain by leveraging my expertise in protocols, tools, and testing methodologies, contributing to the development of reliable and high-performing automotive embedded systems.

PROFESSIONAL SUMMARY

- Having a total of 9 Years of experience in which 5 years of Experienced in Automotive Embedded Validation Engineer specializing in CAN, UDS, CAPL, and CANOE tool & bootloader validation. Proficiency in developing and executing comprehensive validation strategies for automotive embedded systems, ensuring compliance with industry standards and having working experience in defect tracking tools Jira. Skilled in utilizing CAN, UDS, and CAPL protocols to analyze, troubleshoot, and validate system functionalities. Adept at leveraging the Canoe tool for efficient testing, debugging, and logging of communication networks. Having knowledge of ADAS based AEB testing scenarios.

WORK EXPERIENCE

Current Organization: Automotive Test Systems
Current Position- Sr. Engineer
Time- July 2015 to till date.
Location- Ghaziabad, U.P., India

ROLES & RESPONSIBILITIES

- Develop and execute comprehensive diagnostic test plans for automotive embedded systems.
- Conduct validation testing to ensure the functionality and compliance of diagnostic features.
- Utilize the UDS protocol to establish communication and diagnose faults in the automotive systems.
- Effectively operate and configure the Canoe tool to simulate and analyze diagnostic communication.
- Analyze test results, identify issues, and collaborate with cross-functional teams to resolve them.
- I have experience and proficiency in defect tracking and experience in Jira project management tools.
- Document test procedures, results, and any identified defects or improvements for future reference.
- Collaborate with software and hardware development teams to validate diagnostic implementations.
- Stay updated with the latest industry standards, regulations, and advancements in diagnostic testing.
- Participate in design reviews, contribute to system improvements, and provide technical expertise.
- Maintain a meticulous approach to detail, ensuring the accuracy and reliability of diagnostic tests.
- Knowledge of software development methodologies (e.g., Agile/Scrum)

PROJECTS

Automotive Validation Project:

1. Airbag ECU Validation & Diagnostic:

- The Airbag Control Electronic Control Unit (ECU) is a pivotal safety component in vehicles, overseeing the deployment of airbags during collisions. It constantly monitors sensor data, such as accelerometers and impact sensors, to assess crash severity and direction. Based on this information, the ECU makes split-second decisions on which airbags to deploy and with what force. It ensures optimal protection for occupants by considering factors like seat occupancy and collision dynamics. The ECU conducts self- diagnostics to detect faults and system integrity. It interfaces with other vehicle systems, like seat position sensors and stability control, for comprehensive safety coordination. Overall, the Airbag Control ECU is a critical component that enhances passenger safety by precisely managing airbag deployment for maximum effectiveness.

2. ESP Validation & Diagnostic:

- Electronic Stability Program (ESP) is a computerized safety technology present in most modern cars. It is designed to improve a vehicle's stability by detecting and reducing loss of traction, thus preventing the tyres from skidding uncontrollably. When the stability control programme detects a loss of steering control, it automatically applies individual brakes to help 'steer' the vehicle where the driver intended it to go Until you've actually driven a car with and without ESP, beyond grip limits on a test track and had the opportunity to compare the difference, it's quite difficult to truly understand the importance of this quite remarkable system.

3. Smart Parking Brake ECU Validation & Diagnostic:

- The Smart Parking Brake Electronic Control Unit (ECU) is a component in modern vehicles that controls the operation of the electronic parking brake system. It replaces the traditional handbrake lever with an automated mechanism. The ECU manages the engagement and release of the parking brake using electric motors, sensors, and control algorithms. The Smart Parking Brake ECU enhances convenience, provides precise control, and contributes to improved safety by automating parking brake functions and integrating them with other vehicle systems.

TECHNICAL SKILLS

- Network protocols: CAN protocols (CAN 2.0 A/B, CAN FD)
- Diagnostics protocol: UDS (ISO 14229)
- Network Simulation tools: Vector CANoe, CAPL scripting, HIL Testing
- Bootloader Validation
- Basic Python Scripting
- Jira Bug Tracking Tool
- Agile Methodologies

EDUCATIONAL QUALIFICATIONS

- Technical Education:
  Course: B. Tech (Electronics and Communication Engineering)
  College: S.D. College of Engineering and Technology, Muzaffarnagar
  University: Uttar Pradesh Technical University, Lucknow
  Passing out Year: 2014.
  Percentage: 66%

- Schooling Education:
  Course: Intermediate (10+2)
  College: L.J.P. Sarswati Vidya Mandir, Muzaffarnagar
  University: U.P. State Board, Lucknow
  Passing out Year: 2010.
  Percentage: 65%

- Schooling Education:
  Course: High School (10th)
  College: L.J.P. Sarswati Vidya Mandir, Muzaffarnagar
  University: U.P. State Board, Lucknow
  Passing out Year: 2008.
  Percentage: 61.33%

Dear Sir/Madam, if given a chance, I will not leave any stone unturned to fulfill your expectations of me. Hoping for a favorable response.

With Best Regards.

Aayush Vashishth