

# AKSHAY PATIL

Viman Nagar Pune 411014 | +91 7038281078 |  
Patil.akshayy35@gmail.com

## PROFESSIONAL SUMMARY

Experienced Automotive Validation Engineer with over 4.5+ years in the industry. Specialized in ensuring the reliability of embedded systems through expertly crafted validation plans. Proficient in industry-standard tools and methodologies, with deep knowledge of CAN, UDS, CAPL, HIL Testing and Canoe. Exceptional communicator and collaborator, driving seamless project outcomes.

## TECHNICAL SKILLS

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|---------------------------------------|-------------------------------|
| ✓ Programming languages: CAPL, Python | ✓ Network protocols: CAN      |
| ✓ HIL Testing                         | ✓ Agile development Framework |
| ✓ Diagnostic Protocol: UDS 14229      | ✓ JIRA, DOORS, GIT, GitHub    |
| ✓ Simulation tools: Vector Canoe      | ✓ Black Box Testing           |

## PROFESSIONAL EXPERIENCE

**Senior Engineer | Axiscades Technology Ltd. Bangalore** Aug 2023 – Jan 2024

### Project - Differential Control

The Differential Control System is an essential component in vehicles aimed at preventing slipping and enhancing stability during various driving conditions. It utilizes electronic control systems to manage torque distribution to the wheels, ensuring optimal traction and minimizing wheel slippage.

#### Responsibilities:

- Review test cases in accordance with UDS 14229 documentation, ensuring adherence to standards and verifying completeness and accuracy for effective validation
- Develop and manage HIL automation concepts, scripts, and their implementation.
- Assessing possibilities for test case automation, semi-automation, and manual testing.

**Senior Executive | Robertshaw Control Pvt. Ltd.** Nov, 2018 – July 2023

### Project - Power liftgate Control

The radar system facilitates hands-free opening of the boot with a simple foot movement, offering a solution to a common daily dilemma: juggling groceries while approaching the car. Traditionally, unloading items requires setting them down to open the trunk or door. However, the radar system eliminates this hassle. A sensor positioned at the rear detects foot movement when the car key is nearby. A slight kick beneath the rear triggers the boot to open automatically, streamlining the process of loading groceries or luggage.

#### Responsibilities-

- Understanding requirements and creating test cases for diagnostic needs.
- Crafting test cases in writing, executing them, and providing detailed reports while collaborating with developers.
- Performed a range of Diagnostic services including DTC testing, reading DID, and executing Diagnostic Routines.

- Familiar with CAN protocol, UDS ISO 14229 protocol, ISO 15765 and Vector CANoe.
- Logging defects for development team.
- Responsible for managing SIDs 10, 11, 27, 28, 3E, 85, 14, 19, 22, 2E, 2F, and 31.
- Develop, maintain, and execute HIL testing concepts and scripts
- Maintain accurate documentation of test artifacts, including test scripts, configurations, CAPL libraries, and test environment setup, for future reference and compliance purposes

**Project: Roof Control ECU:**

A power sunroof is mechanically opened and closed by a small motorized component. Small rods that are attached to the sunroof itself are connected at the other end to the sunroof motor. The sunroof motor spins when it is turned on, pushing or retracting the rods that are attached to the sunroof. This is what enables the sunroof to open or close. A power sunroof, along with all the other vehicle accessories, is operated by electrical power supplied by the vehicle battery.

**Responsibilities:**

- Develop and execute comprehensive test plans for diagnostic testing of automotive embedded systems, specifically focusing on UDS (Unified Diagnostic Services) protocols.
- Conduct DTC (Diagnostic Trouble Code) testing to ensure accurate identification and reporting of faults or malfunctions in the vehicle's subsystems.
- Verify the implementation of DID (Data Identifier) functionalities, ensuring the retrieval and interpretation of diagnostic data parameters.
- Utilize the Canoe tool effectively to simulate and analyse communication between the embedded systems and diagnostic testers, monitoring data flow and response times.
- Develop and execute CAPL scripts to automate diagnostic test cases, streamline testing processes, and perform complex test scenarios.

**Trainee Engineer | Robertshaw Control Pvt. Ltd**      July, 2015 – Oct, 2018

**Responsibilities:**

- Setting the priorities for the assembly as per requirement of order execution department.
- Preparation of various types of report for the production review.
- Responsible for the inventory control.
- Work out on customer complaints and take corrective actions to avoid such complaints in future.

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**EDUCATION**

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**North Maharashtra University, MH**  
**Bachelor of Engineering, Mechanical Engineering, 2014**

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**CERTIFICATION**

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- ADAS (Advanced Driver Assistance Systems)
- PGP in Data Science & Business Analytics