Aditi Sarkar

Senior Automation Engineer at Ultraviolette Automotive

Work experience

Present ↑ Jul 2025

Senior Automation Engineer

Embedded Team, Ultraviolette Automotive

- Designed and deployed an automated **HIL validation framework** using Robot Framework and Python for HV BMS, reduced manual validation effort by **85%**.
- Authored **150+** HV BMS test cases covering cell balancing, protection logic, and **95%** safety critical requirements. This helped in identifying **10+** functional defects at pre-integration.
- Built a PySide6 based system-level test UI, reduced debugging turnaround time by **60%** and supported cross-team issue resolution.
- Conducted stress testing, uncovering key hardware and HIL firmware defects, contributing to pre-production **Jig stabilization**.
- **Strengthened** EOL software to be used for **50+** HV BMS and CMB boards validation per day by refining requirements, restructuring test logic, enhancing backend execution, and implementing flashing capability.

Jun 2025 ↑ Dec 2022

Diagnostics & Automation Engineer

V&V Team on IDC6, an advanced L2+ and L2++ ADAS, Mercedes-Benz R&D

- Analyzed **630+** requirements and developed **350+** test cases (CAPL, OTX), improving test coverage by **5x**.
- Conducted ECU/HIL testing for **25+** releases, raising **30+** critical bug reports with a high acceptance rate.
- Independently **led** CyberHIL and Camera Calibration for Driving and Parking, including HIL setup and test sequencing.
- **Developed** front-end GUI and critical backend components supporting 10+ operations for SCN and parallel IDC6 teams.
- Implemented Python scripts for artifact comparison and validation using Pandas and NumPy, achieving a 12x performance boost with zero-defect delivery.
- Contributed to **CI/CD** pipelines for concurrent automated file generation and CDD artifact verification.

Dec 2022 ↑ Nov 2019

Senior Engineer

CCU System Integration Testing Team, KPIT Technologies Ltd

- Authored **100+** test cases and implemented CAPL scripts in CANoe for system validation across **6** carlines.
- Automated test execution, reducing manual effort by **60%** and streamlining flashing via Trace32, E-Sys, and INCA.
- Handled Smoke, Functional, and Regression testing across 6 major topics, including **Diagnostics, DTCs, NVM, Power Management, Security and Flashing**.
- **Managed** 4+ parallel releases with on-time delivery, zero-defect artifacts, and a CSAT score of **4.92**.

Accomplishments

- Awarded High Flyers and KROWN Awards a total of 5 times for excellent performance in a 26-member team.
- **ISTQB®** - International Software Testing Qualifications Board Certified (Issued Sep, 2021).
- Received Process Innovation Award for "Concurrent automated generation & validation of CDD artifacts".
- **Course Certifications** - Complete Python Pro, PyQt5, AUTOSAR Diagnostics (UDS, On-Board Diagnostics), Adaptive AUTOSAR, Embedded Systems Bare-Metal Programming (STM32)

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Skills

Programming:
- Python, CAPL
- Embedded C, C, C++

Communication protocols:
- CAN, CANFD, Ethernet DoIP
- UART, I2C, SPI

Tools:
- CANdela Studio, CANoe
- Monaco DTS9, OTX Studio
- Lauterbach, vTESTstudio
- MATLAB, Keil, GIT
- SVN, STARC, DOORS, JIRA

Python Frameworks:
- Pandas, Numpy, PyVisa
- PySerial, bs4, Selenium
- PyQt5, PySide6, Tkinter
- **Testing Frameworks**:
  - Robot Framework, PyTest

Others:
- UDS (ISO 14229)
- OBD (SAE J1979), FuSa
- Battery Management System
- Firmware Coding, VCU
- RTOS, Bare Metal
- CDD Authoring, ODX
- Jenkins, CI/CD Pipeline
- Classic & Adaptive AUTOSAR
- Black Box Testing, Traceability

Education

VIT, Vellore
- **B.Tech** in Electrical and Electronics Engineering, July 2019. **CPI: 8.6/10**.

Kendriya Vidyalaya
- **XII standard** (CBSE Board) in PCM + Computer Science. **Grade: 92%**
- **X standard** (CBSE Board). **CPI: 10/10**.