Mustafa Sheikh

Versatile engineer with five-plus years of experience in HIL test automation within the automotive industry. Adept at gathering requirements and delivering automation solutions that expand capability and increase efficiency with minimal supervision. Committed to working as part of a diverse team while fostering a positive, result oriented, and fun attitude.

Skills

* Python, C++, UML
* Froglogic Squish, CANalyzer
* Simulation and Modelling using MATLAB and Simulink/Stateflow
* Mechanical part design using SolidWorks and CATIA
* dSPACE AutomationDesk, dSPACE ControlDesk
* Visual SVN, Git

Work Experience

Feature Expert, Ford Motor Company

Allen Park, Michigan, USA (Jan 2019 – Present)

* Developed and delivered Python based multi-threaded solution to flash software on Automotive Ethernet Gateway module subsystem in vehicle using a web-interface for OEM which is currently being used for production.
* Worked on-site on Autonomous Vehicles to support OEM engineers and Ethernet Gateway firmware engineers to support testing and debugging.
* Investigated and advised on best practices for LabView and it’s use for in-house production testing solutions.
* Lead production testing efforts to review PFMEA as part of a cross-functional team.
* Participated in peer within team for testing solutions and UML based documentation.

Feature Expert, Ford Motor Company

Allen Park, Michigan, USA (June 2018 – December 2018)

* Feature expert for highly distributed Lighting and ADAS features
* Responsible for working with cross-functional team to determine scope-of-testing
* Investigate current test-bench (HIL simulator) capabilities and expanding them to requirements
* Co-ordinate local and off-shore resources to set milestones and deliver continuous testing of feature during each step of development cycle

Automation Solutions Developer, Ford Motor Company

Allen Park, Michigan, USA (January 2015 – May 2018)

* Manual Testing Interface Standardization and Framework
  + Led a team of engineers to design a set of standard test layouts to increase efficiency of manual testing execution.
  + Created scalable framework using ControlDesk Next Generation and Python to control testing interface based on ease of use and minimal downtime for testers.
* Appium Based Phone Automator for HIL
  + Researched and evaluated multiple options for Phone automation for HIL.
  + Created simple proof of concept to prove out strategy.
  + Mentored new team members on Python best practices and guided creation of full solution.
  + Collaborated with Test Engineers and Junior Automation Engineers to assist integration with existing AutomationDesk framework.
* Squish Based Automated GUI Tester for Gen 3.0 Sync Module using Python 3.x
  + Independently modified and extended pre-existing code from an off-shore team for local lab’s needs under time pressure in an Agile environment.
  + Integrated modified solution into local HIL and AutomationDesk frameworks while keeping pace with early stage software interface changes.
  + Responsible for ongoing support and maintenance of local tool.
  + Provided training and mentorship for other team members for use and maintenance.
* Universal Robot based Automated HMI Tester for Infotainment
  + Supplied, gathered, and submitted requirements to vendor.
  + Oversaw design and lead team for commissioning and validation.
  + Integrated solution AutomationDesk by writing and designing “library blocks” and data structures for portability and reuse of solution.
* Automated Locking Feature Tester for testing of distributed locking features
  + Designed, modelled, and evaluated parts and assemblies for fixturing using CATIA.
  + Worked closely with other engineers to write and modify smart motor controller code for to better suite the application.

HIL Engineer, Ford Motor Company

Dearborn, Michigan, USA (April 2013 – December 2014)

* Test Bench BOM validator and parts acquisition
  + Identified and ordered parts for two concurrent programs
  + Involved in part tracking and
  + Collaborated with suppliers, engineers, purchasers to resolve issues
* Local Lead for global communication group
* Power-train subsystem lead
  + Collected and reviewed ECU data sheets and system schematics
  + Conducted signal list reviews and commissioned dSPACE HIL rack
  + Coordinated testing efforts on rack
  + Used Simulink to modify and create functionality for HIL models in conjunction with dSPACE libraries
* License manager
  + Restructured dSPACE license scheme to maximize usage and minimize cost
  + Responsible for maintaining and procurement of all license for the lab with total cost of ~ 1000 000 USD and maintenance fees of about ~120k USD
  + Worked with multiple suppliers and vendors to get quotes to fit the lab’s needs

Education

University of Windsor – Windsor, Ontario (2010-2011)

**BSc Physics and High Technology**

University of Windsor – Windsor, Ontario (2004-2009)

**BASc (Co-op) Electrical Engineering**