Contact

www.linkedin.com/in/dr-riaz-ahmed-987b4614 (LinkedIn)

Top Skills

dSPACE
Modeling
Control System Design

Languages

English (Professional Working)
Urdu (Native or Bilingual)
German (Limited Working)

Dr. Riaz Ahmed

Senior Software and HIL Engineer - EV at Dyson

Summary

HIL Rig development with dSPACE system, Speedgoat System
Instrumentation and Harness development for HIL Rig
Automated Test Development by using AutomationDesk, ControlDesk, CANape, Excel, Python, Matlab for multiple ECM platform
Automated Test development by using Matlab Toolboxes like,Simulink Test, Test Manager, CAN Toolbox for speedgoat system HIL rig
Develop HIL rigs and automated tests for Electric and Hybrid Vehicles, Electric Drive, Diesel Engine
Develop Power Supply System for electric motor that can drive the electric motor and can also absorb regen power from the electric motor.

Experience

Dyson
Senior Software and HIL Engineer - EV
December 2018 - Present
Hullavington

Developing HIL rigs for electrical Powertrain based on the Scalexio.

Tata Technology Limited.
Validation and Planning Engineer- EV
August 2017 - Present
EIDC, Warwickshire

• Designing Electrical Power train for passenger car. Deciding write parameters/size for electrical components (electric motor, battery, inverter, MCU, VCU DC-DC converter etc). Search for suitable vendors that can offer electrical components according to our design and parameter requirement. Negotiate/meeting with the vendor to finalize contract.
• Designing Electric Rail Car
• Developing automated tests by using AutomationDesk for dspace based HIL simulation to test diesel engine software

Integral Powertrain - Combining innovation with proven engineering best practice

Software and Control Engineer

February 2017 - July 2017 (6 months)

Milton Keynes, United Kingdom

• Developing HIL tests to validate embedded software for electromechanical system. Speedgoat system is being used to develop HIL tests. Simulink Test Manager, Simulink Real time, Simulink, Stateflow, Simulink Vehicle Network, Simulink Data Inspector are used in this project. XCP over CAN modelling in Speedgoat real time system to measure XCP parameters during HIL simulation tests. INCA is used for XCP calibration writing. Automated tests development by using Simulink Tests Manager. PWM and dead time testing by using Speedgoat system and external hardware. Changing embedded Simulink models to add testing harnesses then compile and download to micropeocessor. Embedded CAN HIL testing. PMSM controller algorithm testing

Jaguar and Land Rover

CAE Analyst-Suspension and electromechanical anti roll (eARC) System

March 2014 - November 2016 (2 years 9 months)

Gaydon, UK

-Hardware in the loop (HIL) rig development for the testing electromechanical anti roll system. -eARC. The rig consist of MTS hydraulics actuators, dspace multi processors system, rapid pro, half car frame, aelectromechanical nti roll system, suspension system, different instrumentation and sensors, Matlab/ Simulink is used to model different controllers and drive hydraulic actuators.
-Contribute towards the development of sinkable power supply system for eARC rig to drive pmsm motor in anti roll system. It consist of power supply, electronic loader, super capacitors, electrolytic capacitors, dspace is used to control working of this power supply
-Analysis of eARC system on eARC Test rig
-Use of HBM quantum kit and prosig kit
-Simulation and modelling of electrmechanical anti roll system
-Simulation and modelling of Active suspension system
Fuel optimization simulation for hybrid vehicles by using Dynamic programming algorithm

Alstom Grid

Power Control Engineer

April 2013 - July 2013 (4 months)

Stafford UK

Worked as Power Control engineer in R&D department of Alstom Grid and developed new concepts and controllers for multilevel HVDC converter. I worked on AC supply voltage sag fault and developed some new controller concepts and modeled them in Simulink/SimPower.

Carts GmbH
Hybrid Project Leader
January 2012 - March 2013 (1 year 3 months)

Developing Simulator for Electric Drives and for Li_Ion Battery.

Tesis Dynaware
Simulation Specialist
January 2011 - December 2011 (1 year)

Simulation specialist and control algorithm development for Hybrid and electric vehicle

Protean Electric Ltd
Software Engineer
June 2008 - May 2011 (3 years)

Modelling of complete Electric Vehicle
Develop complete electric vehicle simulation model for off line and real time HIL Rig (dspace based). The purpose was to provide a HIL Rig platform for vehicle level controllers testing and calibration
PM Motor, three phase inverter Modelling
FOC controller development for PMSM in simulink/stateflow
Position feed back Dual axis Hall sensor design for rotor position feedback
Single axis turn table to test accuracy of magnetic poles in ring magnet.
Standalone executable Hybrid Truck Simulation Package:

NESCOM
Manager HIL Simulation Group
June 1996 - September 2002 (6 years 4 months)

Education

University of Southampton
PhD, Real Time HIL Test bed for Formation Flying Satellites · (2003 - 2008)

The University of Sheffield

MSc, System and Control Engineering · (2002 - 2003)

Computer Training Centre Institute Islamabad

Post Graduate Diploma, Computer Hardware and Software · (1995 - 1996)

Quaid-e-Azam University, Islamabad

MSc, Nuclear and System Engineering · (1992 - 1994)

Quaid-e-Azam University, Islamabad

MSc, GeoPhysics · (1989 - 1991)