**OMKAR LAHURIKAR**

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**Powertrain Integration Engineer** featuring expertise in analysing and debugging controls system. Good functional understanding of engine and powertrain, experience working in cross functional teams. Passion for powertrain controls, ADAS and other automotive disruptive technologies.

**Technical Skills**

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| **Proficient** | **Knowledgeable** | |
| CANOe, Matlab, Simulink, CAN, Diagnostic Applications, Rapid Prototyping with MotoHawk/Mototune, Mathematical Modelling | | C, C++, INCA, GTPower |

**Education Michigan Technological University** (MTU), **Houghton, MI** **May 2013**

Master of Science in Mechanical Engineering

**Work Experience**

**Power-train Integration and Software Release Engineer**

**Fiat Chrysler Automobiles-**Auburn Hills MI **August 2013 to Present**

* Validated Engine Control Unit (ECU) software to insure the implementation of the requirements
* Resolved ECU system and component level issues using corporate diagnostic tools and CAN signals
* Supported vehicle level validation at all build phases
* Successfully released ECU Software/Calibrations to the Assembly Plants
* Co-ordinated with cross functional team members to successfully met project deadlines
* Recognised by manager for developing CANOe configuration, resulted in reduced testing time
* Led and developed automation of DVPR process using CANOe and Simulink, which improved productivity

**SAE Engine Controls**

**Engine RPM controller using MotoHawk (LHP**) **June 2013**

* Designed and developed State Machine, which selects engine stall, crank and run mode in simulink
* Limited maximum and idle engine RPM by developing Max Gov and Min Gov limiter functions
* Resolved RPM under and over shooting problem by developing RPM set point manager
* Successfully verified and validated state machine in software in loop and on actual Cummins engine

**Control Strategy for Cummins Diesel Engine using VP-44 Fuel Pump Controller (LHP) July 2013**

* Designed and developed model based control system using rapid prototyping tools
* Acquired real time sensor signals and incorporated it in MotoHawk model
* Calibrated engine map which selects fuel per cylinder for engine RPM and pedal position
* Defined CAN messages and sent to fuel pump controller for fuel injection rate and injection timing of fuel pump
* Successfully ran Cummins engine by controlling fuel pump control module and lift pump

**Research Experience**

**Development of One-Dimensional Diesel Particulate Filter Model in Matlab (MTU)** **Spring 2013**

* Researched working of Diesel Particulate Filter (DPF) and formulated numerical equations
* Debugged, verified and developed Mathematical model in Matlab
* Developed regeneration and control strategy of PM oxidation, resulted in oxidation temperature below critical temperature
* Obtained and analysed regeneration temperature data, and studied effects of temperature change
* Successfully validated results with existing lumped parameter model

**Project Experience**

**Single Zone Combustion Modelling of V6 3.5L Ford Eco-Boost Engine (MTU) Spring 2013**

* Obtained and processed pressure data for 300 cycles in Labview
* Modelled apparent heat release and cylinder volume change rate
* Computed IMEP and pumping work at different EGR percentage
* Calculated mass fraction burn for different EGR percentage
* Successfully validated combustion characteristics using wiebe function

**GT Power Project** **(MTU) Spring 2011**

* Studied effects of throttle position and spark timing on engine performance parameters
* Observed effects of equivalence ratio on power, fuel conversion efficiency, heat transfer and NOx
* Analysed effects of compression ratio on BMEP, thermal efficiency and burned gas fraction
* Acquired engine performance data and analyzed results using GT-Post

**Car blind spot detection system December 2015**

* Coded and debugged blind spot detection program in Arduino IDE and successfully flashed software in controller
* Assembled Radar sensor and Arduino controller and successfully tested on vehicle

**Continuously Variable Transmission (CVT) control using Hydraulic Control System Spring 2009**

* Designed and Manufactured variable diameter pulley, hydraulic control system and other components of CVT
* Obtained mechanical advantage from small and large hydraulic cylinder

**Activities**

* **Graduate Student Government Representative (MTU) Fall 2012**
* Elected Graduate Student Government Representative at Michigan Tech
* Hosted events like Meet & Greet and Launch & Learn programs
* **MTU Entrepreneur Club Member (MTU) Fall 2012**
* Participated in Bob Mark Elevator pitch competition
* Member of Hitchhiker's team