SRIRAM K

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Total Experience: 3.6yrs
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Objectives

A professional career in an organization wherein I can develop my skills and give my best efforts to work for overall stability and prosperity of the company and myself.

Summary

- Automotive Engineer with 4.5 years of experience in GT suite-GT power and Engine ECU calibration.
- Engine modelling and calibration using GT suite-GT power.
- Model Coverage on MATLAB (Simulink and State Flow).
- Designing fuel injection strategies using MATLAB Simulink and developing algorithm using Simulink speed density.
- Working knowledge on Powertrain systems and driveline.

Name of the Company : **Hinduja Tech** (Since October 2021)
Position : Senior Engineer

Work Experience

- Hybrid and electric traction system simulation using GT-Suite.
- Regenerative Braking system modeling and simulation in GT-Suite.
- Battery cooling module development in GT-Suite.
- Vehicle longitudinal dynamic module development.
- Powertrain sizing and range analysis testing using drive cycle analysis.
- Worked on Acceleration and grade ability test for Electric vehicles.

Name of the Company : **Renault Nissan Technology and Business center of India** (August 2019 – September 2021)
Position : Engineer

Work Experience

- Engine modelling and calibration using GT suite-GT power
- Calibrating non predictive and predictive combustion.
- Intake and Exhaust Cad model are discretized using space claim and gem 3D converting in to one dimensional flow template.
- Attaching the flow template to the engine model EGR model according to engine specification
- Selecting turbocharger according to engine power and airflow turbocharger data come from manufacturer or need to develop parametric map for turbocharger according to engine design and operating condition.
- Modeling Fuel injector controller available in GT suite control the injection timing and amount of fuel to be injected and using injector rate map and calibrate the model.
- Project works on changing bs4 diesel engine into bs6 engine.
- Input from test data cell validating that input, heat Release data for engine at each operating point.
- Done Three Pressure analysis and cylinder pressure analysis and generating burn rate for each operating point.
- Validating with measured data with simulation data try to minimize simulation target error.
- Injector calibration generating injector rate profile by using predictive injector model

- Di pulse calibration using Optimization Techniques obtaining Entrainment Multiplier, Ignition delay multiplier , Premixed Combustion multiplier and Diffusion combustion multiplier for each operating point calibrating 28 points in engine map and validating three points low speed and low load, mid speed and mid load and high speed and high load checking error limit between predicted and simulated curve and reducing engine out NOx according to converter efficiencies and urea injection strategies HC and CO limit.
- SI engine calibration.
- Calibrating single cylinder 390 engine modelling engine in GT suite using discretization technique and generate map using RLT dependency object generate base map as spark timing map fuel injection map VE table.
- Calibrate the engine according to rated speed and intermediate speed.
- Designing fuel injection strategies using MATLAB Simulink and developing algorithm using Simulink speed density algorithm and alpha-n control algorithm by using Simulink done mathematical modelling generate algorithm co-simulate with Ricardo software.
- Calibrating SI Wiebe parameter and turbo flame combustion object.
- Building Algorithm for function strategy and validating according to the requirements.
- Converting engine model into FRM model for reducing computational time for using Co-Simulate with MATLAB model.
- Worked on Model Coverage and Simu-link state Flow.

Tools worked on

- GT-suite/GT-Power
- MATLAB-Simulink/State Flow

Name of the Company : **Sirius Motorsports India Pvt Ltd** (June 2017 to Aug 2019)
Position : Junior Design and Calibration Engineer

Work Experience

- Designing Roll cage for drivers and spoilers for race cars and air dam trims using CATIA and SOLIDWORKS.
- Designing frame for racing vehicles using SOLIDWORKS and Suspension brackets using CATIA and SOLIDWORKS.
- Worked on GT-POWER for developing 1D SI engine modeling and calibrating performance and emission enrichments.
- Calibrated ECU for petrol and diesel engines with various maps- (Tuner studio/Haltech/Motec).
- Worked on VAGEDC suite for CI engine maps.
- Experienced in model-based development of SI/CI engines-(MATLAB-SIMULINK).
- Developed Control strategies for SI engine- Fuel Injection/Spark Ignition/Performance enrichment.
- Developed Control Strategies for CI engine- Fuel Injection/Performance Enrichment's.
- Developed 1D Powertrain system and simulated - (RICARDO WAVE).
- Developed model based Anti-lock Braking system.

Project: Model based development for SI engine control strategy and ECU mapping.

Skills Gained

- Gained skills on MIL Testing.
- Gained working knowledge on creating various maps for aftermarket ECU-Arduino.
- Real time experience in interfacing Arduino board with MATLAB.
- Worked on TUNER STUDIO an aftermarket software for mapping.

Academic Record

GKM College of Engineering and Technology

B.E in Automobile Engineering	–	75%	2015
HSC	–	75%	2011
S.S.L.C	–	80%	2009

Hobbies

- Reading Automotive magazines and books.
- Free hand Car sketching.
- Car body styling in 3D software.

Technical Skills

GT-SUITE/GT-POWER: 1D Engine Modelling/Engine Performance and Emission Calibration.
MATLAB/SIMULINK: Control system models of SI/CI engines.
ECU TUNING: Tuner studio/Haltech/Motec for Petrol Engines and VAGEDC Suite for Diesel engines.
RICARDO WAVE:1D Engine modelling / simulation.
SOFTWARES: Catia V5/Ansys/Solid works/Creo/NX cad/NX Nastran.

Declaration

I do hereby declare that all the details furnished above are true to the best of my knowledge.

Place: Chennai
SRIRAM K