PRATHAMESH DILIP GAONKAR

Bangaluru, Karnataka 560074 | prathameshgaonkar98@gmail.com | +91- 9284145508

Professional Summary

Innovative and goal-oriented professional committed to Vehicle Developement around 2 years.
Dedicated team player skilled at mediation and conflict resolutions. Very aspirant engineer towards the future technology of Electric Vehicles, control logic development of xEV vehicles.

Skills

- Sound knowledge of simulations on AVL Cruise / GTSuite /MATLAB/Simulink
- Practitioner in vehicle performance, fuel economy and EV Range evaluation
- Comprehensive knowledge of automotive powertrain and vehicle dynamics fundamentals
- Good knowledge of data analysis and post processing skills
- Good understanding in model-based development
- In-depth understanding of vehicle performance (acceleration, coast down test) evaluation.
- Effective co-ordination with cross functional teams for Project management.
- Highly skilled in process automation and analysis tool/template development for fast data analysis

Work History

Engineer – xEV Vehicle Systems Engineering

August 2022- Present

Subhas Automotive Pvt Ltd

Bengaluru - Karnataka

Responsibility: EV and xEV Vehicle simulations and Testing for Subhas Automotive Pvt Ltd.

Project: Development of Utility motorcycles, EV Range, Performance and drivability.

Work done:

- Responsible for EV Powertrain component sizing by evaluation of EV Range on regulatory and real-world drive cycles, acceleration performance, capability and drivability using 1D simulation software tools and test data analysis.
- Vehicle plant model building and simulations using Hybrid Optimization tool in Amesim Simcenter which is also used in EV control strategy software development.
- Virtual validation of PAT's for vehicle Accelerations and gradeability using Ansys software tools to reduce vehicle testing as an approach aligned to Digital Twin.
- HV Battery and traction motor sizing depending upon the vehicle voltage system and architecture.
- Completed 2+ EV project with complete simulation analysis for series production.
- Electric vehicle testing on chassis dynamometer for EV range and calibration for Range improvement by simulation techniques.
- Developed multiple tools for generating dynamic duty cycles for various category vehicles for real-world drive cycle simulations including Intra-City, Intercity applications.
- Utility motorcycles simulation strategies and model building

Technical Environment

Tools: **Autonomie, MATLAB, Simulink, Ansys Twin builder, Ansys workbench, Amesim Simcenter, AVL Cruise, GT Suite.**

Projects

Project 1: Selection Criterion of E-Drive system for xEV vehicles for Intra-City applications.

Work Done:

- Developed Gear-optimization tool for RWUP cycle preparation used for various powertrain configurations.
- Preparation of Pedal Maps for drivability and Fuel economy of all vehicle segments.
- Developed Excel-macro based tool for vehicle data analysis to automate the FE analysis process.
- Target setting and benchmarking vehicles for powertrain selection of 2W EV Utility and Mopeds, EV Auto-riqshaw**.**
- Distance based simulation for RDE cycle development and emission analysis using RLDA.
- Individual responsible for all vehicle and powertrain simulation of Subhas vehicle development division.

Tools: : **AVL Cruise, GT Suite, MATLAB, Simulink, PTC Creo, Catia.**

Project 2: Development of 2W EV utility vehicle for Intra-City applications.

Work Done:

- Designed and Developed 2 wheeler 1KW Hub Chassis into Mid Motor drive using 1D simulation software tools to get the more Torque output as compaired to Hub motor.
- Developed Gear-optimization tool for RWUP cycle preparation used for various powertrain configurations.
- Simulated and analyzed implication of vehicle on Motor-Controller specification changes on EV range and engine specification changes on FE & Performance(Acceleration, Gradeability & max speed) & emissions for deciding.
- Developed an appropriate mathematical model using Rigid body dynamics fundamentals for 2W EV.

Tools: **AVL Cruise, GT Suite, MATLAB, Simulink.**

Project 3: Development of Electric Golf cart vehicle.

Work Done:

- Key player in cross functional teams for new product development – Golf Cart vehicle development.
- Designed & Build Wiring harness communication and Sensors for Vehicle.
- Evaluated and implemented new methods of vehicle simulation for Golf Cart
- Developed longitudinal dynamics mathematical models to evaluate the Traction motor sizing & Battery range as per stakeholders requirement.

Tools: **MATLAB, Simulink, Catia.**

Design Engineer January 2021 - August 2022

Helvoet Rubber & Plastic Technologies India Pvt Ltd. Pune – Maharashtra.

Responsibility: Die design development.

Project: Development of Die for lean production of Automotive Plastic small accessories parts.

Work done:

- Understanding the specific requirements of the plastic part, such as dimensions, material and quality.
- Improving the design for easy and efficient manufacturing, considering factors like part complexity, moldability and tooling requirements.
- Minimizing material waste by designing the die to produce parts with minimal excess material and ensuring efficient material distribution within the mold.

Tools: **UGNX**, **Excel.**

Education

Master's degree: Automotive Engineering January 2024 - Pursuing

BITS Pilani WILP Pilani, Rajasthan

Bachelor's degree: Automobile Engineering November 2020

Mumbai University Mumbai, Maharashtra

Current Academic learnings

- Exploring the Cyber threats associated with Automotive Networks and communication systems.
- Understanding the AUTOSAR standards, Vulnerabilities and securing strategies for software development using Encipherment algorithm.
- Understanding CAN protocol, ECU communications and what makes up a CAN network, what makes up a CAN node & why it is important to secure the CAN network.
- Tools used :- **Vehicle Spy, Kali Linux**