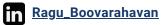
# Ragu Boovarahavan

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# © PROFILE SUMMARY

A contemporary engineer with experience on automotive technologies, having team oriented style of technical skills, management & knowledge to achieve sustainable solutions/goals that promotes the team, organization and personal development.

SKILLS & EXPERTISE			
Modelling & Simulation	Wiring Harness Design	Technical & Industrial	Interpersonal
MATLAB	Catia V5	EV Technologies	Problem solving
Simulink		Embedded Systems	Team management
State flow	Programming & Tools C, Python, Arduino	DVP Testing NPD Process	Adaptable & Flexible
Simscape	Power-Bl	Testing Standards	Time management
Altair Activate	MS Office	IATF Audit	Learning innovations

## **PROFESSIONAL EXPERIENCE**

# InGo Electric Pvt Ltd, Bangalore, India Electrical Design Engineer

July 2023 - Present

## **Modelling & Simulation**

- Developed a 1D model of E-Powertrain components in a model based system engineering using various various drive cycles as input in MATLAB & Altair Activate.
- Simulated an e-CVT drivetrain for an electric motor application including component selection.
- Developing techniques to make the motor running at the most efficient points and required less capacity of the battery.
- Developing battery module for predicting real world drive performance and range of EV.
- Collaborate with a cross functional team to ensure the powertrain meets all system requirements including vehicle performance, emission and safety.
- Developed methods in simulation for sizing, design, development and optimization for all the e-powertrain components.

#### Design:

- Electrical harness design of different projects using CATIA V5 and reduced 10% cost of the previous version harnesses.
- Designed & developed various testing equipment with loggers to acquire data for simulations & design optimization which reduced the testing & analysis time by 30%.
- Developed in-house electronic circuits and boards for telematics & power conversions.

#### **Testing & Others:**

- Led a team of technicians and engineers to support testing activities and achieve project goals.
- Developed & executed testing plans for vehicle systems, including powertrain, chassis and safety.
- Conducted root cause analysis and trouble-shooting for product defects and failures.
- Benchmarked electric vehicle components and provided design inputs.
- Performed data analysis and data visualization from test reports using Power-BI and identified failure modes for next versions at an early stage.
- Vendor relationship & management of all the powertrain & electrical components.

## InGo Electric Pvt Ltd, Bangalore, India Intern

Jan 2023 - July 2023

- Developed testing equipment & loggers for the field test vehicles to log electrical parameters, vehicle speed, acceleration & distance which led reduced testing expenses by 20%.
- Assisted in Functional testing & validation & NPD processes.
- Cost-cutting analysis and reduced cost by 5% of electrical and electronics components .
- Collaborated with design and manufacturing teams to ensure product quality and reliability.
- Assisted in Production & Quality Inspections.
- Documented Standard Operating Procedure (SOP) for Vehicle assembly as per IATF Standards.

## Mechatron Motors LLP, Coimbatore, India **Chief Technical Officer**

May 2021 - Dec 2022

- Own student startup unit with 12 members from automotive competitions background.
- Raised an investment of 2 Lakh INR with our products portfolio.
- Handled powertrain modelling & simulation to demonstrate to management & investors.
- Designed & prototyped a Hybrid electric conversion kit for old ICE Vehicles.
- Designed & prototyped an Instrument Cluster for Electric Vehicles with data management.
- Handled functional Testing & Validation.
- Market analysis, pitching & financial management.

# **息** PROJECTS

## **Electric Vehicle - Design & Development**

- · An electric vehicle is designed and developed from scratch for inter-college racing conducted by various organizations (Hero Electric & ISIE, SAE, AMT MotoCorp, Imagine to Innovate).
- · A Mathematical modelling of e-powertrain using MATLAB is developed for components sizing which effectively promotes to win the championship of 1 Lakh price.

#### Instrument Cluster for EVs

- · A low cost instrument cluster developed using Arduino, Raspberry Pi with MATLAB Think-Speak Cloud space to analyze the parameters.
- This is fully funded by the University under the Research Scholar Scheme of 25,000/-

## **Controller for DC-DC Converter**

- Developed a fuzzy logic controller for DC-DC converter for low power applications by varying the duty cycles.
- This is demonstrated by the using a copper plate transferring heat to electricity in an IC Engine with a controller to charge the battery.

## **EDUCATION**

# PG Graduate Program - Electric Vehicle Design & Development

Feb 24 - Present

Skill Lync (Digital Edu-tech platform), India

### Master of Engineering - Power Systems Engineering

2021 - 2023

Sri Ramakrishna Institute of Technology, Coimbatore, India **CGPA - 8.4** 

#### **Bachelor of Engineering - Electrical & Electronics Engineering**

2017 - 2021

Sri Ramakrishna Institute of Technology, Coimbatore, India

**CGPA - 7.6**