KARTICK RAMAKRISHNAN

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SUMMARY

Engineer with an all-round exposure of the entire automobile product life cycle – from concept, product design and manufacturing to customer support. Presently working in the fast-paced R&D group at Mahindra's Product Development arm to create future ready powertrains for emissions compliance and performance. Applied and appreciate TRIZ and Biomimicry innovation methodology to multiply product ideation and solution. Worked in CFT with design, shop floor and warehouse - recognized the importance of building interpersonal relationship and packaging ideas to achieve a greater impact for a varied audience and end users. Loves solving complex problems by breaking it down to smaller, simpler and solvable problems.

EDUCATION & CERTIFICATION

National Institute of Technology, Tiruchirappalli *Class of 2016*

B.Tech in Mechanical Engineering

First Class with Distinction, **GPA: 8.61/10**

Chettinad Vidyashram, Chennai *Class of 2012*

CBSE, **95.8%**

Awarded certificate for securing top 1 percentile in AISSCE

Wind Energy by Coursera *December'19*

https://www.coursera.org/account/accomplishments/verify/ETX6G6Q6CVTH

EXPERIENCE

Mahindra and Mahindra Ltd. *Aug' 17 to Present*

Working in Vehicle Performance Simulation (VPS) to improve engine efficiency without compromising Mahindra's signature performance and drivability. Identified, prototyped and evaluated future-ready strategies to meet regulatory norms.

- Developed first principle models in MATLAB & Simulink to front load strategic technical decisions by management to achieve CO_2 and emission targets.
- In charge of performance simulation of the entire gasoline engine portfolio.
- Perform competitor benchmarking to understand technologies used to reduce cost, weight and friction.
- Interact with suppliers to discuss, evaluate and implement newer technologies for more efficient design
- Working with academia from IIT-M to develop more robust simulation models for better prediction.
- Researching patents and publications to implement latest technology trends.
- Build statistical black-box models to evaluate after treatment strategy for BS6 regulation.
- System level optimization between performance and fuel efficiency.
- Designed experiments, analyzed, documented and summarized results for simulation hypothesis validation and proof of concept (POC) evaluation.
- Developed methodology to design Worst Case Cycle for RDE validation at Chassis Dyno Lab. Saving time and resource for BS6 validation.

General Motors India Pvt. Ltd *Aug '16 to Aug '17*

Developing new products and platform for the emerging markets of Asia and South America. Gained an all-round exposure to the entire automobile product life cycle, with three-month projects at different stages of product development, manufacturing, after sales and marketing. This experience helped me appreciate the importance of process robustness, systems integration and customer focus.

GM Technical Center, Bengaluru (Product Design and Visualization)

- Performed static virtual vehicle conformance for all GM carlines. Identified, recorded and tracked all configuration and non-compliance issues with the Design Release Engineer.
- Worked closely with the design release team to monitor the virtual vehicle design and development, and ensure Bill of Materials (BOM) conformity.
- Proposed an OPEX project for development of a heuristic method to automate validation and locating of multiple occurrences of parts within a configured vehicle.
- Ensured design conformity for manufacturing and servicing ease and accessibility.

GPS Manufacturing, Talegaon (Product Manufacturing and Operation)

- Led a team of contractors to implement a Pace Management System which is used to assist operators in maintaining cycle time
- Installation was completed and tested without reducing manufacturing operation time.
- Reprogrammed and reused existing machine sensors to capture production count and cycle time for online monitoring. Reducing cost, time and effort in developing and implementing new system.
- Collaborated with plant operation team for manufacturing and assembly line readiness for new engine variant.

Parts Distribution Center, Talegaon (After Sales and Customer Support)

- Improved picking productivity by re-organizing the warehouse based on part heat and demand
- Productivity improvement of over 2.5% was observed in the 3 months after implementation
- Developed a re-order mechanism for indirect materials

HANDS ON SKILLS

- Engineering Research
- Statistical Optimization & Data Analysis
- Thermodynamics and Combustion Simulation
- Virtual Mockup
- FMEA and Control Plan
- Python, C++,
- MATLAB & Simulink
- Biomimicry 4.0 & TRIZ
- Star CCM, Converge CFD, GT Suite, AVL Boost

COURSEWORK

- Core Mechanical Engineering
- Automobile Engineering
- Advanced Engineering Materials
- Basics of Production Engineering
- Executive Communication
- Basics of Management Principles

PUBLICATIONS & ACHIEVEMENTS

- Ramakrishnan, K., Ramadandi, P., and Krishnan, K., "Effect of Gasoline-Ethanol Blends on GDI Engine To Reduce Cost of Vehicle Ownership," **SAE Technical Paper 2019-28-2379, 2019**.

LANGUAGES KNOWN

- English – Professional
- Tamil – Native
- Hindi – Intermediate

EXTRA CURRICULAR ACTIVITIES

- Led the **Campus Placement Preparatory Committee** for the junior Mechanical Engineering batch; involved in setting up mock tests, interviews and pairing juniors with mentors based on field of interest.