

Vipul Kumbhar

Graduate Student, Automotive Engineering

Clemson University

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Objective To pursue graduate studies in the field of Automotive Engineering at a University internationally reputed for high standards of research and to seek position in team engaged in purposeful research.

Area of Interest Autonomous Vehicles and Connected Mobility, Hybrid and Electric Vehicles.

Education Qualification	Year	University	Grade
Masters, Automotive Engineering (ongoing)	2019-2021	Clemson University	3.86 /4.00
B. Tech, Mechanical Engineering	2011 -2015	IIT Roorkee	65.07%

Job Information **Lead Mechanical Engineer, IX Energy, Delhi (Nov 2015 – June 2019)**
Joined as a Powertrain Engineer and was promoted to Lead Mechanical Engineer at the end of tenure. IX Energy began as a research project at University of Wisconsin, USA and then started working in India commercially for joint development project for TATA 1512 hybrid vehicle upon Mr. Ratan Tatas request. Project and related responsibilities undertaken-

- TATA 1512 Hybrid Vehicle
 - Led work on Retrofit kit of post-transmission parallel hybrid powertrains for urban buses. Work includes system architecture design, system integration, control system testing and validation. System have improved fuel economy of vehicle by 30% for Delhi duty cycle.
 - Development of thermal liquid cooling system for motor and controller.
 - Development of MATLAB model for refinement in hybrid control strategies and algorithm which includes analyzing field test data, parameters and its effects on fuel economy.
- TATA 407 Electric Vehicle
 - As a powertrain engineer worked on development of mathematical model of vehicle for motor sizing, cooling system design, determination of energy consumption and battery pack sizing.
- TATA 1823 Electric vehicle
 - Worked as project manager for system integration of retrofit electric kit.
- Mahindra 9-ton hybrid vehicle
 - Worked as project manager for development of pre-transmission parallel hybrid system for 9-ton vehicle.

GET- R&D Auxiliary Power Business, Greaves Cotton Ltd., Pune (June – Nov 2015)

Undergone 3 months Induction training, mainly focused upon understanding of engine R&D. Worked on packaging design and development of 10KVA genset, noise testing and response time calibration for certification process on 500KVA Genset.

Internship Information **MNV Industries, Pune (May 2014 - July 2014)**

Internship was focused on evaluation and exploration possibilities of recycling of waste heat energy, optimization of ducts for heat dissipation to various processes using Thermal-CFD analysis in Ansys.

Projects **IIT Roorkee Motorsports (March 2012 – December 2015)**

The team project aimed at designing and fabricating an open wheel race car for an International Formula Student Competitions.

- [Formula Student Australasia 2015](#): Development of an Electrical vehicle (August 2013 to December 2015)
 - As a chief technical officer led the team of 60 members. Was responsible for Project management, development of strategy for using technological resources and guidelines for product development.
 - As head of structural design team and powertrain systems team worked on FEA methods for components using Solidworks and Ansys, physical testing setups, vehicle and powertrain modelling in MATLAB.
 - Led the team at competition in Calder park raceway, Australia. I was responsible for technical scrutineering and team management. Team won CAMS INSPIRING MOTORSPORTS award for completing all technical tasks in its first year of participation despite various unavoidable hurdles.
- [Formula Student UK-2013](#): Development of a Plug-in Hybrid Electrical Vehicle (March 2012-July 2013)
 - Formula Student is an engineering competition organized by IMechE. Student teams from around the world to design, build, test, and race a small-scale formula style racing car. Worked as structural design head and was responsible for cad modelling, structural design and analysis.
 - Team secured 61th rank out of 100 teams and won the IMECHE Award of 2500 pounds for best design.

IIT Roorkee, Chemical Engineering Dept. & NPCIL (Feb2014 - May 2014)

- The project from Nuclear Power Corporation of India Ltd and IIT Roorkee, aimed to examine effectiveness of Iodine and heat removal from PHWR primary containment during LOCA by spray system.
- As an assistance to professor worked on cad designing, system integration and fabrication of test setup.

Awards and Achievements

- 1 [National Talent Search Examination \(NTSE\)](#), 2007-08 scholarship awardee.
- 2 [Maharashtra Talent Search Examination \(MTSE\)](#)
 - 2009, 3rd in district.
 - 2008, 32nd in state.
 - 2007, 1st in district.
- 3
 - 1st prize in SAE Auto trivia (Quiz based on technical questions).
 - 3rd prize in SAE ZEPPELIN JUNKER (To design balloon powered small toy car).
 - 1st prize in 2014 and 2nd prize in 2013 TECHNO-CAD Event, Cognizance.

Languages Marathi, Hindi, English

Voluntary Work Co-initiated work on waste food management in Hostel Cafeteria and its distribution to animal shelter.