MOHIT GUJRE

Gender: Male
Linguistic Proficiency: English, Hindi
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Experience Summary:

I have 1+ year of working experience in Mathematical Modeling in Dymola. In this period, I have been worked under the development of new component of HVAC system and Elevator System in Dymola.

Work Summary:

- Currently working with Mathematical modelling, simulation, testing, validation and control of HVAC system.
- Experience in mathematical modelling & simulation of various HVAC systems for the residential, commercial, and industrial in applications.
- Experience in Validating and analyzing the performance of mathematical models and calibrating the models with the bench test results. Experience in getting functional controls in System models.
- Getting Hands-on system models for Client tool component modelling & MBC Document preparation
- Experience in creation of template Library of HVAC control system.
- Experience in cross functional team activity for product understanding, planning strategy development, decision making for delivery and support.

Skills:

Domain	MBSE, CFD, Off Road Highway Vehicle, Power Plant,HVAC
Software Skill	3DExperience, Dymola, Modelica, Python, MATLAB, ANSYS-Fluent

Educational Qualification:

Degree/ Examination	Year of Passing	School/Institute	Board/University	Percentage/ CGPA
M.Tech (Thermal Power Engineering)	2021	National Institute of Technology, Tiruchirappalli	National Institute of Technology, Tiruchirappalli	8.04
B.E (Mechanical Engineering)	2017	Technocrats Institute of Technology (Excellence)	Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal	8.24
CLASS XII	2013	Kendriya Vidyalaya Air Force Station, Amla	Central Board of Secondary Education	78.2
CLASS X	2011	Kendriya Vidyalaya Air Force Station, Amla	Central Board of Secondary Education	6.8

Industrial Experience:

L&T Technology Services

- **Dynamic Modelling and Simulation of Heat Pump for US Based OEM**
  - Developed mathematical model of different tonnage of Heat Pump in Dymola
  - Calibrated the model using the test condition of different Heating points.
  - Dynamic simulation of developed system with different boundary conditions.
  - Optimization of component to get the better usage at system level.

- **Mathematical modelling and simulation of Elevator System for India Based OEM**
  - Detailed study of various type of Elevator systems.
  - Developed the mathematical model that calculate the position and CG of the elevator using Dymola.
  - Real time simulation of developed system with various elevator parameters.
  - Optimization of elevator component to get the better usage at system level.
  - Integrated 3D catia Model of elevator to the Dymola with the help of RFLP approach in 3D experience.

- **Modelling and post processing of HVAC system in Dymola**
  - Developed mathematical model of entire Vapor compression and refrigeration cycle using thermocycle library in Dymola
  - Used various methods to improve the robustness of the model to ensure the performance of the system.
  - Conducted various post processing activities such as sensitivity and uncertainty studies, model calibration, validation of the model optimization.
  - Developed a model for calculating the realistic heat load of a midsized room using ASHARE standards.
  - Creation of Test plan, Requirement Documents, multirun using OCT.

Project Work:

- **PG Project: CFD analysis of biodiesel blends and combustion using Ansys Fluent**

  Aug 2020-Dec 2020
  - Aim is to compare biodiesel with diesel fuel, parameters like the temperature of combustion, NOx emission at various blend ratios of B0-B100. Results are compared with diesel fuel, and an appropriate blend ratio is given for biodiesel for having for maximum efficiency and the least emission in CI engine.
- **UG Project: Performance Analysis of Vapour Compression and Vapour Absorption Refrigeration Units working on Photovoltaic Power Supply** *Sep 2016-May 2017*
  - It involves a performance analysis between solar photovoltaic (SPV) operated vapour compression and vapour absorption refrigeration systems. To comparison, two refrigerators working on different refrigeration cycles (compression and absorption) have been selected.
  - Vapour absorption refrigeration system required much more time to stabilize at load condition in comparison to vapour compression system. So, vapour absorption refrigeration system is not recommended for the high cooling however it can maintain the desired temperature within 10

- **Vocational Training at Satpura Thermal Power Station:** *Jul 2016 - Aug2016*
    - Training was given in maintenance and operation of bowl mills, electrostatic precipitator, and ash handling plant.
    - The power plant uses coal provided by Western Coalfields Limited and Northern Coalfields Limited and the power generation capacity is 1330 M.W.

Areas of Interest:

- Thermodynamics
- Computational Fluid Dynamics
- Fluid Mechanics
- Machine Design
- Heat Transfer

Academic Achievements and Co-Curricular Activities:

- Attended International Conference on Emerging Trends in Mechanical Engineering organized by Technocrats Institute of Technology Bhopal in year 2016.
- Attended Seminar on 3D Printing Technology organized by Technocrats Institute of Technology Bhopal in year 2016.

Extracurricular Activities:

Social Activities*:*

- Represented as **Volunteer** in food distribution drive in Ramzan for the underprivileged, organized by the Dream Box Foundation –NGO in year 2017.
- Donate the blood in Blood Donation camp at Technocrats Institute of Technology Bhopal organized by Department of ME, Technocrats Institute of Technology and Science in associated with BMHRC Bhopal in year 2015.

Cultural Activities:

- Represented as Discipline Coordinator in College Annual Function in year 2016.
- Participated in the Slow Bike Race organized by Anand Mela in year 2014.

Sport Activities:

- Participated in Inter College volleyball tournament organized by Technocrats Institute of Technology Bhopal in year 2015.