Kumar Bhivesh Sharma

Roll No.:214363002
MS(R) E-Mobility
Indian Institute Of Technology, Guwahati

+91-8219869602
kumar.bhivesh@iitg.ac.in
vibheshmodgil@gmail.com
Github | website.vibheshmodgil.repl.co/
linkedin.com/in//kumar-bhivesh-sharma/

EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
MS(R) E-mobility	Indian Institute of Technology, Guwahati	8.8 (Current)	2021-Present
B.Tech Mechanical	National Institute of Technology, Hamirpur	7.87	2017-2021
Senior Secondary	Himachal Pradesh Board of School Education	91.4%	2016
Secondary	Himachal Pradesh Board of School Education	91.57%	2014

PROJECTS

- **Development of Motor Design Platform** *Jan 2022 - Present*
  Prof. Praveen Kumar , Professor , Dept of EEE , IIT Guwahati Code Link : Github

  – Drive Cycle Analysis to obtain design inputs for the Motor and Battery
  – Developed extensive Libraries for slot shapes , Rotor Surfacing and Flux Guides
  – Generalized formulation of Lumped Parameter models for Thermal Analysis of Motors
  – Graphic User Interface of Motor Design software using Tkinter and standard Python Libraries

- **Lumped Parameter Modelling of Motors for TMEIC** *June 2022 - present*
  Prof. Praveen Kumar, Dept of EEE , IIT Guwahati and Sudheer Tapaskar TMEIC Code Link : GITHUB

  – Analytically solved conventional heat transfer differential equations to determine the thermal resistances
  – Developed thermal circuits for motors to quickly evaluate the temperatures of various components.
  – Developed generalized MATLAB Codes to define and solve thermal circuit
  – Validation of results through Ansys WorkBench

- **Single Variable , Multi-variable and constraint Optimization** *Aug. 2021 - Sep. 2021*
  Dr. Deepak Sharma, IIT Guwahati Code Link : GITHUB

  – Developed an algorithm in MATLAB for constraint optimization using Bracket-operator penalty method, Newton's method, Bounding phase method and Secant Method .
  – Developed Solution Visualization algorithm for better understanding of solution with interations .

- **Portfolio Website for myself** *Aug. 2021 - Oct. 2021*
  self https://website.vibheshmodgil.repl.co

  – Created Website to showcase me and my work using HTML and CSS

PUBLICATIONS

- **Accessibility of Electric Vehicle in Indian Market (ISBN-978-93-5578-243-4)** *Nov.2021*
  Co-Author, IIT Guwahati Report

  – Conducted a survey reviewing the Accessibility of Electric Vehicle in Indian Market after the pandemic.
  – This survey aims to understand the actual demands of the consumer so that we can bridge the gap between consumer expectations and the products developed by OEMs.

- **Electric 2-wheeler drive cycle based drive-train sizing (ISBN-978-93-5578-973-0)** *Jan.2022*
  Co-Author, IIT Guwahati Report

  – This report provides a comprehensive procedure for estimating battery size, design and optimization of motor specifications, fuel consumption and emission analysis from the raw drive cycle data.
  – The raw drive cycle data is collected from different parts of India and comprises of both urban and rural drive data,So this report is anticipated to represent the Indian driving scenario.

TECHNICAL SKILLS

- **Programming Language**:Python , MATLAB , C++*

- **Libraries**:Numpy , Pandas , Matplotlib , Seaborn , Scikit-Learn* , Tkinter

- **Web Development**:HTML*,CSS*

- **Software Used**:Fusion 360 , Ansys WorkBench , Ansys Maxwell* ** Elementary proficiency*

Key courses taken

- **Electric Vehicle**: E-Mobility, Electric and Hybrid Vehicles , Energy storage and conversion
- **Core Mechanical**: Optimization Methods in Engineering , Finite Element Method , Mechanical Vibrations, Heat Transfer, Fluid Mechanics , Strength of Materials , Machine Design
- **Programming**: MATLAB , Python , Data Structure and Algorithms
- **Machine Learning**: Supervised Machine Learning: Regression and Classification

Positions of Responsibility

- **Deparatmental Placement Representative**, E-mobility, IIT Guwahati *June. 2022 - Ongoing*
- **Class Representative**, E-mobility, IIT Guwahati *June. 2021 - Ongoing*
- **Executive Member**, Team Medextrous, NIT Hamirpur *June . 2018 - June 2021*

Experience

- **Internship at SJVN limited** *May 2019 - Jul. 2019*
  In-plant training at 1500 MW Nathpa Jhakri Power Station and 412 MW Rampur Hydro Power Station) Shimla,Rampur

- **Teaching Assistant** *Jan. 2022 - June 2022*
  Mentoring and assessing undergraduate students for the 'CAD Lab' CAD Lab, IIT Guwahati

Achievements

- **Gate**, Secured 98.7 percentile among 120k+ candidates *2021*
- **Gate**, Secured 186 Rank in Gate XE Exam *2021*
- **B.Tech**, Recipient of PM Scholorship *2017-2021*
- **Matriculation Exam**, Secured 41 Rank in Matriculation Exam in HP Board *2014*

Hobbies and Extra-Curricular

- Volunteer for North-Eastern Research Conclave

- Volunteer for Literacy Mission Group NITH

- Likes to write poetry and study about Cosmology