L HARSHA

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SUMMARY

As a final-year mechanical engineering student, I love exploring new technologies and applying them to real-world problems. I have a particular interest in ML and Thermal Sciences, and I'm always looking for ways to optimize systems.

EDUCATION

Dayananda Sagar College of Engineering, Mechanical — **Bengaluru, Karnataka, India**
Bachelor of Engineering (BE), CGPA: 8.19/10 — *Aug 2019 -Present*

Relevant coursework – Heat Transfer, Machine learning, Fluid Mechanics, Thermodynamics, Flight Mechanics, Finite Element Methods, Strength of Materials, Engineering Economics, Design of Machine Elements, Turbomachinery, Computer Integrated Manufacturing.

Sri Vasavi Composite Pu College, Science — **Bellary, Karnataka**
12th Grade (Physics, Chemistry, Math, Biology) — *Mar 2018 – Mar 2019*
Percentage: 88.25%

EXPERIENCE

Central Manufacturing Technology Institute — **Bengaluru, Karnataka, India**
[R&D Institute under Ministry of Heavy Industries, Govt. of India]
Research Internship after 5th Semester — *Mar 2022 – Apr 2022*

- **Design and Analysis of Feed Drive System for Digital Twin Test Rig Application**

- Gained knowledge of ball screws and other elements of feed drive systems while contributing to the project and improving technical knowledge and problem-solving abilities.
- Created CAD models, conducted modal and static analysis, and collaborated with team members during the lab visit to inspect feed drive elements that were ordered, contributing to the development of the feed drive system project.
- Presented the design and analysis of the feed drive elements to a panel of scientists, demonstrating strong communication and presentation skills.

CERTIFICATIONS

Electric vehicles and renewable energy - IIT Madras
National Program on Technology Enhanced Learning (NPTEL) SWAYAM Course Certified - 12 Weeks

- Completed a comprehensive course covering vehicle dynamics, motors, new battery technologies, charging infrastructure, renewable energies, and storage of renewable energy.
- Utilized Excel to automate calculations and further developed technical skills in this field.

PROJECTS

Project - Design of Automatic Solar Street lights.

- Designed an automatic solar street lighting system using Autodesk Inventor, which incorporated a battery, motion sensor, and solar panel.
- Collaborated with a team to test and optimize the system's performance, resulting in a fully functional prototype.

Project - Image Classification using Deep Learning
- Developed a deep learning model using TensorFlow and Keras to classify images of cats and dogs.
- Preprocessed the images using data augmentation techniques and trained the model on a dataset of 2000 images with 70 epochs.
- Achieved an accuracy of 76% on the test set.

Project - Simulation of Vapor Compression Refrigeration Cycle.
- Simulating a VCR system with various conditions and refrigerants to make them more efficient in MATLAB Simscape.

Major Project - Modelling and Simulation of Ground source Heat Pumps.
- To model a VCR system using suitable refrigerants in a simulation software.
- To model the Ground source Heat pump (GSHP's) using earth tube heat exchanger.
- To assess the increase in COP and performance of GSHP vs Traditional VCR system and assess the feasibility.

VOLUNTEERING EXPERIENCE

Make a Difference- NGO **Bengaluru, Karnataka**
Academic Support Volunteer *Jan 2022 – Present*

Technical Coordinator at "TORQ" Robotics Annual College Technical Event. Designed the robotic events and managed the teams from all over the state. The event was successfully organized after the pandemic gap year.

SKILLS and CERTIFICATION

- Python by Free Code Camp.
- Java and SQL.
- Machine learning with python by Free Code Camp.
- Excel and Microsoft suite.
- Software's: Solidworks, Autodesk Inventor, Ansys, Matlab Simscape, Cycle Tempo software.

LANGUAGES

Languages: Kannada (native), English, Hindi, Telugu.