SARVESH TAMBAT

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EDUCATION

Clemson University **December 2024**
Master's in Mechanical Engineering *Clemson,SC*

Veermata Jijabai Technological Institute **June 2022**
Bachelor's in Mechanical Engineering *Mumbai,India*

RELEVANT EXPERIENCE

TATA Autocomp System - EV Division **June 2022 – December 2022**
R&D and Manufacturing Intern *Pune,India*

- Accountable for validating the open circuit voltage machine and the gluing machine for the battery pack assembly line, ensuring operational efficiency
- Enhanced plant layout using AutoCAD, enhancing space utilization and workflow efficiency for an upcoming facility
- Implemented an integrated manufacturing information system that enables the control of 10+ variables from inputs to support services, machines, and personnel in real-time to optimize production and eliminate inefficiencies
- Calculated and simulated the thermal runaway and fluid flow on the cooling plate of a battery pack using ANSYS

PROJECTS

Design for manufacturing of Electric Screwdriver **May 2024**

- Optimized the assembly process using Six Sigma methodologies, reducing overall assembly time by 27% through improved component placement.
- Executed DFMA methods like Boothroyd Analysis, Force flow diagrams, BOM, RTM matrix and GD&T to incorporate part standardization and part modularity into the product to reduce manufacturing costs by 19%

Computational Geometry & Algorithm Development for Surface Modelling **May 2024**

- Implemented C++ algorithms to generate Bezier, Rational Bezier, B-spline, and NURBS curves and surfaces for precise geometric modeling
- Incorporated MATLAB for real-time visualization and user interaction, enhancing design flexibility and analysis

Design and manufacturing of a Proprietary Pet feeding machine **December 2023**

- Engineered, manufactured, and calibrated a fully autonomous pet feeding system using UNO R3 microcontroller and utilizing Fusion 360 for precision design
- Conducted real-world testing with 40+ customers, validating robustness, reliability, and usability, achieving a 70% user satisfaction rating for industry applications

FEA and CFD Optimization for Heat Dissipation in Disc Brakes **May 2022**

- Performed structural and thermal analysis of a disc brake using ANSYS, calculating Von Mises stress, total deformation, total heat flux, and temperature distribution to evaluate performance under extreme conditions
- Developed and simulated two disc brake models with optimized ventilating blade angles, enhancing airflow dynamics and improving heat dissipation efficiency for improved thermal performance

VJTI - Mechanical Engineering Department **May 2021 – July 2021**
Research Project *Mumbai, India*

- Achieved a 47% increase in rotational efficiency over conventional designs and a 40% decrease in starting torque, improving performance in sustainable energy solutions and operational efficiency
- Conducted computational analysis of a modified Savonius wind turbine using ANSYS-Fluent, employing the Shear-Stress Transport (SST) turbulence model to optimize aerodynamic performance and energy efficiency

TECHNICAL SKILLS

- ANSYS
- Control Systems
- SolidWorks
- Fusion 360
- MATLAB
- C++
- Python
- Material Selection
- AUTOCAD
- DFMA
- Optimization
- 3D Printing

LEADERSHIP / EXTRACURRICULAR

- Graduate grading Assistant for the course Control and Integration of Multidomain Dynamic Systems, assisting with evaluations, student queries, and academic support
- Developed strong communication and teamwork skills through professional experience at Starbucks and N-Gravetek
- Led and managed event coordinators for collegiate events, including the Neymar Jr 5-a-side tournament
- Professional soccer player in the Indian League; served as Team Captain in high school and undergrad