

Saurabh Powar

B.Tech.- Mechanical Engineering

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Portfolio: saurabhpowar22.github.io/foxy-head/

Experience

Wilo Pumps

June 2023-Present

- Automation in Bill of Material (BOM) Creation for Multi-Stage Pumps from **SAP Configurator**
- Classification of Components and Standardization

Classification of Components based on pumps type and **Database creation** containing important functional dimensions and features of components

- Development of **Excel VBA** tools for automation
 - Linking of SAP and Excel via VBA for drawing attachment automation, resulting in **80% time reduction** and creation of text manipulation & recognition tools

CFD (Openfoam and Ansys)

- Implementation of **Diffusion transport** using python on regular grid
- Understanding of various Numerical schemes (Quick, TVD, hybrid) and their use cases, solution Algorithms (**SIMPLE, PISO**) with algorithm settings and under-relaxation factors
- Understanding of **iterative methods** for solving large sparse matrix systems (TDMA, GAMG, PCG)
- Experience of case-setup in OpenFoam, setting up all the simulation parameters explicitly
- Advanced Meshing using **SnappyHexMesh**, creating hex dominant meshes

Team Niyudrath Racing | Autosports Club (SAEINDIA BAJA)

2020-2023

- Design, Fabrication, and Testing of All Terrain Vehicle

Development of Suspension and Steering subsystems for **off-road** application considering **load conditions** and maintaining optimum **vehicle control**, while **reducing weight** and optimizing vehicle for maximum track performance

Binani Technologies India (Design Intern)

June 22 – Sept. 22

- Chassis Design of 4-wheeler EV considering battery packaging requirements, strength, and vehicle hard points

Academics

- Mechanical Engineering (B.Tech.) - MIT Academy of Engineering, Pune | **CGPA: 8.36**
- HSC – K.C. College Mumbai | **Percentage: 76.77%**

Academic Projects

Optimization of CVT for All Terrain Vehicle

- Continuously Variable Transmission(CVT) designed by reverse engineering from Gaged GX-9 transmission for better weight optimization along with wide performance spectrum

Effect of surface roughness on boundary layer using CFD (Research Paper)

- CFD study included variations of surface roughness to observe change in boundary layer thickness, laminar to turbulent transition and variation in viscous force

Position of Responsibility

Team Captain and Vehicle Dynamics Lead | Autosports Club

2022-2023

- Leading the team through the SAE BAJA 2023 competition and coordinating the vehicle's development from the design to the testing phase

Achievements

- **All India Rank (AIR) 9** in SAEINDIA BAJA 2023 along with **AIR 1** in Go-Green and **AIR 3** in Validation Event
- **AIR 2** in Go-Green in SAEINDIA BAJA 2021 and BAJA 2022
- **AIR 5** in drone competition at **IIT Bombay Techfest 2020**

Skills

Numerical Simulations, MATLAB, Python, C/C++, VBA, ANSYS, OpenFoam, NX, CATIA V5, Solidworks, Autocad, FMEA, GD&T.