



Manthan Nitin Dhisale
Mechanical Engineering
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Specialization: Manufacturing Engineering
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193109014
M.Tech.
Male
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Examination	University	Institute	Year	CPI / %
Post Graduation	IIT Bombay	IIT Bombay	2022	9.73
Graduation	Shivaji University	Walchand College of Engineering	2019	9.67
Intermediate/+2	Maharashtra State Board	Willingdon College of Arts and Sciences, Sangli	2015	94.00
Matriculation	Maharashtra State Board	Shri. A. B. Patil. English School, Sangli	2013	96.00

Technical Skills

- **Languages & Database**- Python, C++, VBA, Arduino, MySQL
- **Libraries and Tools**- Pytorch, Numpy, OpenCV, Keras, Tensorflow, Git, Scipy, Sympy
- **Hardware**- Rasberry Pi, Arduino
- **Software**- Solid Works, AutoDesk Fusion 360, AutoCAD, Inventor, CATIA, ANSYS, ADAMS, Photoshop, Illustrator, SAP ERP

Course Projects

Digital Twin Construction and Analysis of Sensory Data

(Computer Integrated Manufacturing | Guide: Prof. Soham Mujumdar)

- Objective: To achieve a Digital Shadow of a physical object virtually on FreeCAD software via Python Console followed by data analysis on Arduino IDE and Telemetry (All Open Source)
- Learning: Gyroscopic ESP module hardware, Python, Arduino, FreeCAD, Telemetry

Kinematic and Dynamic Simulation and Analysis of modified Spider Leg Mars Rover Mechanism

(Computer Aided Simulation of Machines | Guide: Prof. Anirban Guha)

- Objective: Modify existing TrotBot crawling Mechanism for extra-terrestrial rover and running simulations for Displacement, Velocity and Acceleration on ADAMS
- Learning: Advanced TOM, ADAMS, Python for Analytical Solution of motion parameters.

Predicting characteristic enthalpies of user-defined material compound using Crystal Graph CNN Algorithm

(Process Modelling using First Principles | Guide: Prof. Ankit Jain)

- Objective: To reduce computation time on clusters taken by Density Function Theory Method by replacing with Convolution Neural Network Algorithm
- Learning: Density Function Theory, Crystal Graphs, CNN, Python Libraries.

Developing Differential Equation solvers using ANN techniques

(Computational Tools for Process Modelling | Guide: Prof. Shyamaprasad Karagadde)

- Objective: To reduce computation time of existing DE solvers which use Explicit and Implicit Euler, by replacing it with Artificial Neural Network Architecture (Forward and Backward Propagation)
- Learning: MATLAB, Numerical Methods, ANN, Python.

Design and Development of Payload system and Drop Mechanism for UAV (Unmanned Aerial Vehicle)

(Autonomous Unmanned Aerial Vehicle Development | Guide: Prof. Krishnendu Halder | Team: RAKSHAK, IITB)

- Objective: To develop a drop mechanism in synchronism to the Autonomous Unmanned Flight
- Learning: SOLID WORKS, Trajectory Planning and calculations

Professional Experience

Worked as an Intern in **EATON INDIA INNOVATION CENTER** for a tenure of 2 months.

Worked over M2P (Metal To Polymer) and P2P (Polymer To Polymer Transition) program for Lighting Division, EIIC.

- Objective : To find cost effective and property optimized polymer solutions to **EATON-COOPER** Lighting products.

Successfully completed Cost Estimation Tool for Injection Molded Polymer Products.

- Objective : To construct a cost calculator which will incorporate all the costs right from raw material to VOH and Profit margins for **EATON-COOPER** Products.

Positions Of Responsibility

- Mentored IITB Mechanical UG students during Mechanical Laboratory sessions of **Machine Tool Laboratory**.
- Guided IITB UG students for their term projects.
- Planned and executed various cultural events for PG students in **Kaleidoscope, PG Cult Phase 1 and 2**.
- Co-ordinated **Design Team of Mood Indigo 2019** for Horizons, Informals, HumorFest, etc
- Co-ordinated **Inter IIT Cultural Meet 2019** for Publicity and Hospitality.
- Co-ordinated **Design Team of E-Cell 2020** for E-Summit 2020.
- Co-ordinated **IITB Placement Cell** in interviews for Phase 1 placements

B.Tech Projects

- Final Year Mechatronics Project on **IoT based Paper Glass fed, Payment operated Automatic Water Dispensing Machine**, a commercial product.
- Third Year Mini project on **Gearbox Design** (Foot Mounted 2 stage Planetary) for Conveyors with 180:1 speed reduction.
- Second Year Mini project on **"Cleaning Kart"** a road cleaning semi bot concept dedicated to Swatcha Bharat submitted to Autodesk India.

B.Tech Highlights

- **Gold Medalist**, Mechanical Branch, of Passing Batch 2019 of Walchand College Of Engineering.
- **Autodesk Fusion 360**, winner in national level (top 10) best design selection, SWATCHA BHARAT.
- Chief Coordinator, **VISION 19**, a National Level Technical Event, Press and Correspondence.
- Assistant Art Director of **MESA-MESC** board 2016.
- Editor of **SOFTA** board 2017.

Sports

- Recipient of **Black belt** in Karate.
- Recipient of **Green white Green belt** in Kick boxing.
- Won **State level** in Kick boxing.