Divyanshu Krishnani | **160100073**
Mechanical Engineering | **Dual Degree (B.Tech. + M.Tech.)**
Indian Institute of Technology, Bombay | **Gender: Male**
Specialization: Thermal and Fluids Engineering | **DOB: 21-05-1998**

Examination	University	Institute	Year
Graduation	IIT Bombay	IIT Bombay	2021

Professional Experience

GE Aviation, General Electric *[May'19-Jul'19]*

Automated Support Structure creation using CAD Software for **Additive Manufacturing**

- Built an **NX custom application** which works with both planar and non-planar pair of surfaces for support creation
- Worked with potential users to incorporate their CTQs for enhanced user experience and **easy adoption** of application
- Applied **Computational Geometry** based approach to build an efficient and user-friendly solution
- **Key learnings:** NX customization, Computational Geometry, Identifying CTQs, User experience, Adoption of application

Surya Machine Tools (I) Pvt Ltd and **Tata Precision Industries Ltd** *[May'18-Jun'18]*

- Got acquainted with ground level processes involved in these Small-scale manufacturing plants
- **Key learning:** Quality control, Fixture designing, Costing, Assembly line

Position of Responsibility

Maintenance Secretary, Hostel-7, IIT Bombay *[Aug'17-Apr'18]*

- Unanimously **Elected** by 350+ hostel members to manage a **budget of INR 3 Lac** for maintenance of hostel facilities
- Solely procured 3 new washing machines by issuing **tenders** and negotiating the prices with potential vendors
- Honoured with **Hostel Organizational COLOR** for displaying exceptional dedication in achieving the set goals
- Awarded **PAF special mention** for exemplary contribution in organising the Performing Arts Festival (PAF)

Key Projects

Obstructive Sleep Apnoea Reduction Device | MEDIC Hackathon *[Oct'19]*

Biomedical Engineering and Technology Innovation Centre, Betic IITB

- **3d printed** the **proof of concept** and developed a unique business model for the innovative product within **5 days**
- Presented to the **top clinicians** of Mumbai, with a **team** of dentist, designer and an electronics engineer
- Honoured with the **best novelty design award** (among 12 teams) for assistive devices by the panel of experts

Modelling of Energy Consumption in Turning Process | Research Project *[Aug'18-Aug'19]*

Guide: Professor A. Shrivastava, Department of Mechanical Engineering

- Modelled energy consumption in **oblique turning process** involving tool and process parameters using **MATLAB**
- Performed experimental validation on **CNC lathe** along with **microscopes**, dynamometer and energy meter
- **Novelty**: **2 new** parameters were considered for the modelling of forces: tool wear and nose radius of the tool

Machine Learning Projects *[May'20-Aug'20]*

- Completed "Titanic: Machine Learning from disaster" challenge on **Kaggle** using Python3
- Completed "Predict the lowest price" challenge on **HackerEarth**, using decision tree and linear regression
- Used **Leave One Out** encoding for implementing decision tree algorithm with nominal categorical variables

Modelling and Inhibition of Geysering in Cryogenic Pipes | Dual Degree Project *[May'20-present]*

Guide: Professor Milind Atrey, Department of Mechanical Engineering, IIT Bombay

- Extensive **literature survey was completed** covering Analytical, Experimental and Modelling works done in the past
- Analysing the two-phase turbulent phenomenon of **LO2** and modelling it on MATLAB using **separated flow model**
- Planning to do experiments with heated pipe and steam injection through porous wall for verification of model

Tip Everting Robot | Design of Mechatronic Systems | Course Project [A*ug'19-Nov'19]*

Guide: Prof Prasanna Gandhi, Department of Mechanical Engineering

- Designed a robot with controlled **3 degree of freedoms** using magnetic sensor, servo and stepper motor
- Powered the plastic bodied robot pneumatically and used a stepper motor and Arduino to control growth rate

Software Used	Programming Languages
MATLAB, ADAMS, AutoCAD, SolidWorks, NX Software Abacus, Ansys, REFPROP	Python, C#

Scholastic Achievements

- Secured an All India Rank **319 (**out of 1,50,000 candidates**)** in **JEE Advanced** and **99.97** percentile in JEE Mains ['16]
- Cleared **NTSE** organised by NCERT in 10^{th} standard in which only **1000** students are selected in the country ['14]
- Currently ranked **10** in 2016-21 dual degree batch of 36 students in Mechanical Engineering ['20]

Extra-Curricular Activities

Courses -**Machine Learning** -Stanford University & **Entrepreneurship Strategy**: From Ideation to Exit-HEC Paris (ongoing)
Technical -Attended **summer induction** program of **IITB Racing** (Students club competing in **formula student** UK)
Technical -Developed a remote-controlled vehicle for **XLR8** competition organised by Electronics Club
Social -**NSS IITB - Upskilled** students in NGO's to help them excel in their school exams. **NGOs: Vidya** & **LCCWA**
Cultural -Secured **2nd** position in **Gyrations**, Inter hostel competition of group dance in 2019
Hobbies -Playing Flute, Writing Poetry

Scholastic achievements and extracurricular activities are not verified by the Placement Cell