



**Md Shaquib Ansari**  
**Mechanical Engineering**  
**Indian Institute of Technology, Bombay**  
**Specialization: Thermal and Fluids Engineering**

**160100081**  
**Dual Degree (B.Tech. + M.Tech.)**  
**Gender: Male**  
**DOB: 16-02-1999**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2021	

### ACCOLADES

- **AIR 15** in JEE Main (B. Arch.) among **1.5 million+** participants | Secured **top 1%** in JEE Adv. among **0.15 million+** students [‘16]
- Honoured with certificate of merit for being among state-wise **top 1%** in **National Standard Examination** in Physics [‘15]
- Recipient of the prestigious **KVPY** fellowship by DST, Govt. of India awarded to **top 1.5%** out of 0.1 million+ students [‘15]
- Achieved **2<sup>nd</sup>** rank in **Regional Mathematics Olympiad** from North Bihar and Patna region organised by HBCSE, TIFR [‘14]

### PROFESSIONAL EXPERIENCE AND PROJECTS

**OPERATIONS INTERN** | FORD MOTORS – SVAEP, AHMEDABAD [Dec’18]

*Project - Tool Breakage **prevention** and detection using **Vibration analysis***

<b>APPROACH</b>	<ul style="list-style-type: none"> <li>▪ Collaborated with machining team to <b>detect</b> and <b>prevent</b> damage of machining tool using <b>vibration analysis</b></li> <li>▪ Established alarm limit <b>statistically</b> based on vibration data recorded by <b>Condition Indicator Analysis Box</b> setup</li> <li>▪ Evaluated the feasibility of a <b>buffer</b> point in IC engine crank-shaft manufacturing line using <b>python</b> simulation</li> </ul>
<b>IMPACT</b>	<ul style="list-style-type: none"> <li>▪ <b>Simulated</b> an increment of <b>83 parts per year</b> by adding a nest which can hold multiple parts in production line</li> <li>▪ Updated the status of <b>886</b> CNC tools and <b>renewed</b> the alarm limits for <b>333 tools</b> in the engine machining section</li> </ul>

**DUAL DEGREE PROJECT** | GUIDE – PROF. S GOPALAKRISHNAN | IIT BOMBAY [Jul’20 – Present]

<b>MOTIVATION</b>	<ul style="list-style-type: none"> <li>▪ Traditional numerical methods viz. <b>Finite Difference, Element, Vol.</b> Methods have <b>lower order</b> of <b>spatial</b> accuracy</li> <li>▪ Higher order continuous <b>Galerkin(CG)</b> and discontinuous Galerkin(DG) delivers <b>higher spatial</b> accuracy in solving complex set of equations mainly due to their <b>high order accuracy</b> and impressive scalability on <b>parallel computer</b></li> </ul>
<b>OBJECTIVE</b>	<ul style="list-style-type: none"> <li>▪ Developing a <b>parallel</b> scalable incompressible Navier Stokes solver using the <b>discontinuous Galerkin(DG)</b> method</li> <li>▪ Utilizing general-purpose graphics processing units (<b>GPUs</b>) to enhance the computational speed of the solver</li> </ul>

**COMPUTATIONAL FLUID DYNAMICS** | ME 415 - PROF. KANNAN IYER | COURSE PROJECT [Aug’19 – Nov’19]

<b>SIMULATIONS</b>	<ul style="list-style-type: none"> <li>▪ Utilized the <b>Marker</b> and <b>Cell, SIMPLE</b> and <b>stream function-vorticity</b> transport algorithms to reproduce the <b>2-D cavity</b> flow problem upto <b>95%</b> accuracy in comparison to Ghia and Ghia’s paper on high reynolds number flows</li> <li>▪ Generated <b>2D</b> body-fitted laplacian grid using <b>Matlab</b> and compared results with analytical 1D radial solution</li> </ul>
--------------------	--

### ONLINE GUIDED PROJECTS

**Data Analysis using PySpark** | Guide - Ahmad Varasteh, University of Genoa [Aug’20]

- Utilized distributed data processing technology using **PySpark SQL** dataframe and applied queries to extract useful information
- Visualised the result using **matplotlib** and merged 2 dataframes to prepare it for more advanced queries in colab environment

**Detecting COVID-19 with Chest X-Ray using PyTorch** | Guide – Amit Yadav [Aug’20]

- Constructed a custom dataset and dataloader in **PyTorch** and trained a **ResNet-18** model to perform **Image classification**
- Created a Convolutional Neural Network (**CNN**) and trained it to classify Chest X-ray scans to predict patient’s condition

**Neural networks and Deep Learning** | Guide – Andrew NG [Aug’20]

- Built, trained and applied fully connected, highly efficient and vectorised **multiple layered deep neural networks (DNNs)**
- Experimented with different model structures and analyzed their performances on a binary **image classification** problem

### LEADERSHIP ROLES

**DEPARTMENT PLACEMENT CO-ORDINATOR** | INSTITUTE PLACEMENT TEAM, IIT BOMBAY [Jul’20 – Present]

*Assisting the placements of **40+** students by working as an interface between placement cell and students*

- Compiled student preferences and expertise to streamline company pitching for maximum recruitment and **job** satisfaction
- Strategized efficient Plan of Action of **15+ preparatory activities** to match student **preference** and company requirements

**TEACHING ASSISTANT** | ME 662 – CONVECTIVE HEAT AND MASS TRANSFER, IIT BOMBAY [Jul’20 – Present]

- Developing course content, preparing assignments with solutions and **assisting** course instructor in smooth conduct of course

### CERTIFICATIONS AND SKILLS

<b>CERTIFICATIONS*</b>	Applied Data Science with Python <b>Specialization</b> <sup>#</sup> , Neural Network & Deep Learning, Adv. Google Analytics
<b>TECHNICAL SKILLS</b>	Spark-SQL, Hadoop, PySpark, PyTorch, R-Studio, Hive-QL, MATLAB, Python, SQLite, Open Foam, SolidWorks

### EXTRACURRICULAR ACTIVITIES

<b>SPORTS</b>	<ul style="list-style-type: none"> <li>▪ <b>Integral</b> member of the team which won IITB Sports Club’s inaugural Institute Freshmen Cricket League [‘17]</li> <li>▪ Successfully completed a rigorous <b>Advanced Badminton</b> summer camp administrated by IITB Sports [‘18]</li> </ul>
<b>FREELANCING</b>	<ul style="list-style-type: none"> <li>▪ Actively associated as <b>subject matter expert</b> with world’s best online tutoring platforms such as <b>Course Hero, Chegg Inc.</b>(NYSE listed Company) and Kunduz providing quality solutions to students across world [‘19-]</li> </ul>
<b>MISCELLANEOUS</b>	<ul style="list-style-type: none"> <li>▪ Awarded <b>Hostel Special Mention</b>(9 out of 400) for paramount contribution towards hostel sports culture [‘20]</li> <li>▪ Achieved <b>1<sup>st</sup></b> position in institute wide <b>Spoof</b> making competition in Freshiezza organized by Culturals IITB [‘16]</li> </ul>

<sup>#</sup>ongoing as of Aug’20 <sup>\*</sup>online courses