



**Vaibhav Takale**  
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Examination	University	Institute	Year
Graduation	IIT Bombay	IIT Bombay	2021

#### SCHOLASTIC ACHIEVEMENTS

- Secured **99.07** percentile in **JEE Main 2017** and **97.53** percentile in **JEE Advanced 2017** [’17]
- Achieved rank **16** and **27** in the State Level Merit List in **Maharashtra Talent Search** in 8th and 10th [’13, ’15]

#### KEY PROJECTS

- Sony India Software Centre** [Feb ’21 – Jun ’21]  
*Role: Data Analyst (Sony Research India)*
  - Performed **Data Cleaning** and **Exploratory Analysis** to glean insights from the usage data of the OTT platform
  - Performed **Feature Engineering** to extract the salient features from the usage data to generate user and content-level summary tables and to build a better **Recommendation System** for **SonyLiv OTT Platform**
- Object Classification using CNN** [Jun ’20]
  - Trained a multi-class classification model on **CIFAR10** dataset using **Tensorflow** to classify images
  - Gained **90%** accuracy by applying **Transfer Learning**, **Image Augmentation** and **Hyperparameter Tuning**
- Text Classification with NLP** [Jun ’20]
  - Trained a spam classifier to find spam text messages, using concepts of Natural Language Processing (NLP) Achieved
  - 98.4%** accuracy by implementing Support Vector Machine (SVM) algorithm
- Data Compression and Visualization** [Jun ’20]
  - Implemented Principal Component Analysis (PCA) algorithm to reduce the dimensionality of data
  - Visualized the data in 2D space by applying **k-means** algorithm on reduced data from PCA
- Big Data Analysis of IMDB Dataset** [May ’18]  
*Guide: Prof. Prabhu Ramachandran (Department of Aerospace Engineering)*
  - Used **Pandas**, **Matplotlib** and **SciPy** library of python to interpret the correlation between the time of release, the genre of movie and revenue generated by the movie in various countries Analyzed the
  - correlation between IMDB ratings and success of the movie using **Jupyter Notebook**
- Computer Programming and Utilization** [Apr ’18]  
*Guide: Prof. Krishna S (Department of Computer Science and Engineering)*
  - Developed and executed an algorithm in C++ to simulate **2-player interactive game** 'Chain Reaction'
  - Simulated explosion of orbs on reaching critical mass and elimination of the opponent's orbs

#### RESEARCH PROJECTS

- Numerical Study of Flame Behavior in a Micro-combustor** [Dec ’19]  
*Guide: Prof. Sudarshan Kumar (Department of Aerospace Engineering)*
  - Developed a **numerical model for combustion** in a micro-combustor using simulation software **Ansys Fluent**
  - Studied dependency of **flame stability** on geometry of micro-combustor with different inlet velocities
  - Inferred effects of combustor material on **heat loss** through the combustor wall for different materials
- Computational Fluid Dynamics** [Jun ’19]  
*Guide: Prof. Kowsik Bodi (Department of Aerospace Engineering)*
  - Simulated flow in a **shock tube** using **OpenFOAM** toolbox to compare density and pressure based solvers
  - Studied the effects on **quasi 1D flow** inside the nozzle by varying back pressure and boundary conditions

#### TECHNICAL SKILLS

**Programming Languages** : Python, Shell Scripting, SQL, C, C++  
**Simulation Softwares** : Ansys Fluent, Matlab, Simulink, OpenFoam, Ansys Gambit, Solidworks, Autocad

#### POSITIONS OF RESPONSIBILITY

- Mentor, British Council Program | English Language Course** [Jul ’18 - Apr ’19]
  - Mentored **50 freshmen** to improve their verbal and nonverbal interpersonal communication skills
  - Conducted monthly meetings to keep track of their **language learning progress** and program-related issues
- Web Nominee | Aerospace Engineering Association Council** [Mar ’18 - Apr ’19]
  - Co-created a website as well as organized non-technical events like "Department Freshmen Orientation"
  - Promoted Aerospace culture in the institute as a part of the 13-member council
- Captain | Hostel 4 Athletics Team** [Mar ’20]
  - Headed athletics team of hostel 4 as a **captain**, obtaining **Bronze** medal in Athletics General Championship
  - Awarded the **Hostel Sports Color** (given to only **2 out of 500**) for exceptional performance in various sports

#### EXTRA - CURRICULAR

- Sports**
  - Part of the 36 member **Athletics InterIIT Winter Camp**, selection camp for interIIT Athletics team [Dec ’18]
  - Bagged **Gold** medals in **4\*400** and **4\*100** relay event in Athletics General Championship [Oct ’18, Mar ’20]
- Public Speaking | Student Wellness Center**
  - Addressed **800+** students on overcoming language problems in the event **Life@IITB** [Oct ’19]