

Scholastic Achievements

- Achieved **99.22** percentile in **JEE Advanced** 2017 among 220 thousand candidates 2017
- Secured **99.54** percentile in **JEE Main** 2017 among 1.2 million candidates 2017
- Awarded **Scholarship for Higher Education** under **INSPIRE** by virtue of performance within the **top 1%** of the Maharashtra State Board at the Class XII level 2017
- Pursuing **Minor in Systems and Control Engineering** 2018

Technical Projects

Team member, ADCS Subsystem, Advitiiy

Feb 2018 - Present

IIT Bombay's Student Satellite Project

Advitiiy is the second student satellite of IITB, technically advanced and efficient version of the first, Pratham

- Derived the implementable formulae of **Extended Kalman Filter**, an estimation technique used for attitude determination of the satellite in orbit
- Used the statistical method of **Allan Variance** on the real-time data obtained from gyroscope to calculate various errors and corrected these errors using **Noise modelling** which was done in **Python**
- Contributed in development of quality assured simulation frame-work for attitude dynamics of satellite by ensuring the proper flow of codes
- Received slow scan television images from **International Space Station** using a low cost receiver

XLR8

Aug 2017

Electronics and Robotics Club, IIT Bombay

- Designed a **bluetooth controlled** obstacle maneuvering bot having **differential** mechanism for turning
- Used **ATtiny2313A micro-controller** to link bluetooth module with **HC-05** with mobile app and used **L293D** motor driver **IC** to control bot's movement

Remote Controlled Plane

Dec 2017

Aeromodelling Modelling Club, IIT Bombay

- Designed a remote controlled fully maneuverable aeroplane with a team of 4
- Optimized the wing span to fuselage length ratio for optimum performance and better controllability.
- Learnt how RF transmitter receiver works, implemented it and used Li-Po battery to power the plane

Course Projects

Big Data Analysis of Wisconsin data set for Breast Cancer

Apr 2018

Guide - Prof. Prabhu Ramachandran (Department of Aerospace Engineering)

- Analyzed a data set containing information on the type of the tumor along with other specifications
- The type of cancer can be **predicted** with some pre-determined level of confidence interval based on the previous data of mean radius, area of tumor etc through **Linear Regression**
- The analysis was done using various libraries like **Numpy**, **Pandas** etc in **Python**

Chain Reaction Simulator

Apr 2018

Guide: Prof. Krishna S (Department of Computer Science and Engineering)

- Contemplated and implemented a **real time copy of Chain reaction game**, executing its logic in a C++ program as a part of 3-member team
- Developed and debugged a structured code to complete the task by interlinking several functions together
- Used the method of **Recursion** to reduce the computational time required to calculate the matrices

Positions of Responsibility

Organizer

Dec 2017

Techfest, IIT Bombay

- Worked with a team of ten organizers and three co-ordinators to conduct the **National level Boeing Aeromodelling competition** at Techfest, IIT Bombay which saw a participation of 200+ teams
- Measured the thrust produced by various participating aeroplanes in the competition to ensure that all the participants are in the limit set by the authorities.

Technical Skills

Programming Languages	C++, HTML, Python
Software Packages	Canva, MATLAB, L ^A T _E X
CAD Softwares	SolidWorks, AutoCAD

Relevant Courses Undertaken

Systems and Control Mathematical structures for Systems and Control*

* to be completed by Autumn 2018

Extra-Curricular Activities

Astronomy

- Participated and represented hostel in the **Theoretical Astronomy General Championship** 2017
- Attended a lecture by Prof. Varun Bhalerao on **high power Space observation telescopes** at **Nehru Science Centre, Mumbai** 2017
- Attended some night-sky gazing sessions conducted by **Krittika**, the astronomy club of IIT Bombay

Entrepreneurship

- Awarded special mention in **EnB Buzz Competition** from around for outstanding performance in presenting a business idea in form of a pitch desk 2017
- Participated in a one-day **Entrepreneurship workshop** conducted by **SINE IIT Bombay** emphasizing on various aspects of entrepreneurship which need to be considered by a budding entrepreneur 2018

Sports

- Completed the trek to **Roopkund** which is considered as one of the toughest treks in India 2018
- Represented hostel at **general championship** in Badminton 2017
- Completed a year long **Badminton course** under **National Sports Organization** 2018