Scholastic Achievements

- Pursuing a Minor in **Computer Science and Engineering** at IIT Bombay *(2020)*
- Presently **Department Rank 1** in 2019-24 batch of Energy Science and Engineering, IIT Bombay *(2020)*
- Secured Percentile **99.21** in JEE Advanced 2019 Examination held for more than 2.4 lakh candidates *(2019)*
- Secured Percentile **99.81** in JEE Main 2019 Examination, competing with over 13 lakh candidates *(2019)*
- Recipient of the **KVPY'18 and KVPY'19 Fellowships** for standing in **top 2 percent** nationally *(2018,19)*
- Achieved a national **1%** rank in **National Standard Examination In Junior Sciences** (NSEJS) *(2016)*
- Subsequently qualified for **Indian National Junior Science Olympiad** (INJSO) and
  Indian National Astronomy Olympiad (INAO) conducted for merit-list state toppers of NSEJS *(2017)*
- Scored the maximum possible marks **(100/100)** in **Mathematics** at the ICSE board examination *(2017)*

Key Projects

Seasons of Code (SoC) *(May 2020 - Present)*
Summer Open-Source Programming Project with WnCC IITB

- Built a **real time** atmospheric renderer **engine** solely using **OpenGL API** with open source methods and tools
- Developed multiple **GLSL** shaders to model **atmospheric scattering** algos for a procedurally generated planet
- Designed lighting models and experimented with different approximations to simulate smooth **light mapping**
- Researched multiple papers on **terrain generation** and currently working on scattering algorithm optimisation

High Efficiency Solar Cooker *(February 2020)*
EN110 Course Project | Guide: Prof. Shireesh B. Kedare

- Designed and developed a highly **cost-effective** solar cooker using basic equipment and waste material
- Analyzed **insolation geometry** and **solar movement** to design a model for use at any time of the day
- Calculated the first figure of merit for the cooker and documented the I/O, design and performance parameters

Content Development *(January 2021)*
E-Learning Project with Symphony IITB

- Ideated content to serve interested freshmen and general enthusiasts for **electric guitar patch making**
- Executed ideas which are projected to cut costs for Summer School of Cult by more than **1 lakh** rupees
- Established a system which guides all levels of guitar enthusiasts and aims to improve the institute's music culture

Delay Pedal Circuit - PT2399 Based *(December 2020)*
EN209 Course Project | Guide: Dr. Rajesh Gupta

- Designed a **delay pedal** circuit, running simulations of time based delay effects; based on the **PT2399 IC**
- Collaborated in a **team of two** to prepare a report and presentation on the designed circuitry and device

Technical Seminar *(June 2020)*
EN110 Course Project | Guide: Prof. Shireesh B. Kedare

- Reviewed the research paper *Wind Energy (R)evolution: A short review of a long history* by John K. Kaldellis and D. Zafirakis, making an **interactive presentation** and presenting it to the class of more than **30** students

Solidworks Project | Waste Scooping Mini-Robot *(Autumn 2015)*
ME119 Course Project | Guide: Prof. Shantanu Tripathi

- Developed **3D CAD** model of a motor-powered waste collection robot, usable to scoop waste in **SolidWorks**
- Scrutinised the dimensional constraints of the individual parts and **scaled** the model to store **105,000cc+**
- Assembled all the parts in SolidWorks suitable for **3D-printing** and conceptualized a demonstration **video**

Technical Skills

- **Programming:** C++, Git, R, Python, Java, C#, JavaScript, HTML, CSS, GLSL, MATLAB
- **Software:** Microsoft Office, AutoCAD, SolidWorks, Reaper, LaTeX, Adobe Premiere Pro

Positions of responsibility

Teaching Assistant | IIT Bombay *(Nov 2020 - Present)*
- Responsible for mentoring a batch of **170+** freshmen for the course **Engineering Graphics and Drawing**
- Tutored students about problem solving using hand drafting and preparing solutions using **CAD software**
- Evaluated answer scripts of 170+ students biweekly and boosted students' performance by giving regular feedback

Class Representative | DESE, IIT Bombay *(2020 - Present)*
- **Unanimously** elected as the Class Representative by the students of Energy Science 2019-24 batch
- Catering to the interests and concerns of students regarding events and courses related to my Department

Pronites Coordinator | Mood Indigo, IIT Bombay *(May 2020 – Present)*
- Working in a team of 60, responsible for smooth execution of concerts attended by a total crowd of **100K+**
- Conceptualizing and Organizing **Livewire** - a gig series for semi-professional bands in **10+** cities of India
- Incentivised participation by negotiating deals with **international** cultural academies and professional institutes

House Captain | Maneckji Cooper Education Trust School, Mumbai *(2016-17)*
- Elected by vote as the Red House Captain, the **second highest** post in the Student Council of MCET
- Organised school level events and was responsible for end-to-end organisation of the **Sports Meet** 2016

Extracurricular Activities

- Achieved **2nd** position in **Goonj'20** (Music GC) as a guitarist and part of the **Hostel 5** contingent *(2020)*
- Awarded the mantle of **Best Lead Guitarist** and consolidated **3rd** position at **Music Arcade '20** *(2020)*
- Performed at **Surbahaar**, IIT Bombay's flagship music event for an audience of **2000+** with **75+** artists *(2019)*
- Completed a year-long training in **Violin** under the **National Sports Organization (Culturals)** *(2020)*
- Conceptualized an article for **Insight IITB** on changing institute culture, working with a panel of 6 editors *(2020)*
- Consolidated **3rd** position in **Street Dance** at **Cascade'16**, India's largest interschool competition *(2016)*
- Secured **3rd** position in **Battle of the Bands** at the Horlicks Wizkids Interschool Fiesta as a guitarist *(2015)*
- Qualified for the final elimination round of **Vogue Talent Hunt** held across fifty schools of Mumbai *(2015)*
- Led the school contingent for **Bournvita Quiz Competition**, competing with other schools in Mumbai *(2014)*

Relevant Courses Undertaken

Core Courses	Other Courses
Thermodynamics and Energy Conversion	Logic for Computer Science
Data Analysis and Interpretation	Introduction to Machine Learning*
Basic Electrical and Electronics Engineering	Mathematical Methods in Engineering*
Mechanics of Materials	Economics
Energy Engineering Fundamentals	Introduction to Numerical Analysis*
Material Science for Energy Applications*	Linear Algebra
Transport Phenomena*	Computer Programming
Energy Resources, Economics and Environment*	Economics
Electrical Machines*	Calculus
Renewable Energy Technologies*	Quantum Physics
	Engineering Drawing

* courses to be completed by April 2021