



Arjav Shah  
Chemical Engineering  
Indian Institute of Technology Bombay  
Specialization: None

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UG Third Year (B.Tech.)  
Male  
DOB: 27/04/1998

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2019	8.98
Intermediate/+2	CBSE	Radiant English Academy	2016	96.00
Matriculation	CBSE	J.H.Ambani Saraswati Vidyamandir	2014	10.00

### SCHOLASTIC ACHIEVEMENTS

- Invited for paper presentation at **Stanford Geothermal Workshop** at **Stanford University** in February '19 ('18)
- Presenting author** of research work accepted for poster presentation at **American Geophysical Union's** Fall Meeting to be held in **Washington D.C.** from 10-14 December, 2018 ('18)
- Awarded the American Geophysical Union **Student Travel Grant** to attend **AGU Fall Meeting 2018** ('18)
- Currently holding **Department Rank 9** in a batch of 135 students in the Chemical Engineering Department ('18)
- Awarded **Academic Proficiency (AP) grades in 3 courses**-Transport Phenomena (2 out of 138), Chemical Engineering Thermodynamics (4 out of 125), Human Resource Management (2 out of 42) ('18)
- Certified as Level-1 **Social and Behavioral Research Investigator** by Collaborative Institutional Training Initiative under requirements set up by the **Spelke Lab** for Developmental Studies **Harvard University** ('18)
- Awarded the prestigious **KVPY Fellowship** by Department of Science and Technology, Government of India ('16)
- Secured **All India Rank 1181** in JEE Advanced examination among 200,000 candidates ('16)
- Pursuing a **minor degree in Management** at Shailesh J. Mehta School of Management at IIT Bombay

### RESEARCH EXPERIENCE

#### Reuse of abandoned oil and gas wells for geothermal energy production (June'18-Present)

Guide: Prof. Vikram Vishal, Computational Geomechanics Laboratory, Department of Earth Sciences, IIT Bombay

- Coupled **2-D thermal reservoirs** with **1-D wellbore** heat transfer model to simulate geothermal energy production
- Investigating the feasibility of deep Borehole Heat Exchanger applications within wells with a **mathematical model** to achieve **outlet fluid temperatures >40°C** for **1000 m** deep wells in regions with temperature gradients **>7°C/100 m**
- Simulating and analyzing the effects of the thermal reservoirs on energy and electric power output using **COMSOL**
- Evaluating the change in transient **temperature profiles** with varying mass injection flow rate, injection temperature
- Selected as presenter of research work at the 7th International Symposium in **Tsinghua University**, Beijing, China

#### Measuring Entrepreneurial Competencies || Leadership and Talent Management (June'18-Present)

Guide: Prof. Shivganesh Bhargava (HoD), Shailesh J. Mehta School of Management, IIT Bombay

- Exploring the parameters and dimensions of entrepreneurial talent to understand different aspects of entrepreneurship
- Surveying individuals on the basis of newly identified **22 entrepreneurial competencies**

#### Event Management Enterprise Business Model || Course Project (Autumn'17)

Guide: Prof. Anand Kusre and Prof. Raj Jaswa, Desai Centre for Entrepreneurship, IIT Bombay

- Worked in a team of 4 to ideate an **event management** enterprise based **business idea**
- Created a **Business Model Canvas** to identify the key points of the business so as to make it feasible and profitable
- Carried out the **customer discovery process** and then customer validation from **39 consumers** in order to get an idea of scalability and acceptance in the target segment market

### PROJECT WORK

#### Rover Design-Mechanical Subsystem || Mars Rover Mission, IIT Bombay (Sept'16-July'17)

- Worked in a **15 member team** to develop the **suspension mechanism** of a semi-autonomous rover to participate in **University Rover Challenge 2017** held in Utah, USA
- Developed the **suspension mechanism of rover** by formulating and testing various prototypes
- Worked on **manufacturing** and **fabrication** of the rover and **robotic arm** on **Autodesk Inventor**

#### Remote Controlled Plane || Aeromodelling Club, IIT Bombay (Spring'16)

- Fabricated a **remote controlled airplane** from scratch over the course of three weeks in a team of **4 members** to learn the basics of aeromodelling and participate in a competition in the institute
- Investigated optimum design parameters which enhanced flight stability and performance

## TECHNICAL SKILLS

- **Programming:** C, C++, HTML
- **Software:** COMSOL, MATLAB, Autodesk Inventor, Solid Works, Adobe Premiere Pro, Microsoft Office

## PROFESSIONAL EXPERIENCE AND TRAINING

### Teaching Assistant || Biosciences and Bioengineering Department, IIT Bombay (Spring'18)

*Prof. Ambarish Kunwar and Prof. Soumyo Mukherjee, Dean of Student Affairs, IIT Bombay*

- Part of a **24-member team** appointed for the post of **Teaching Assistant** for the fundamental **biology course**
- Tutored **43 students** and conducted **weekly tutorials** to clear concepts and discuss solutions to problems

### Business Development Internship || Auxesis Group (Summer'18)

*Guide: Mr. Sunny Kumar, Vice-President, Operations, Auxesis Group*

- Developed an **Identity Management Solution** product prototype involving the use of **block chain**
- Proposed a practically usable, universal and trust-worthy platform that defines the **social identity** of a person
- Formulated and reviewed content for the launch of **Auxledger-3<sup>rd</sup> Generation** Block Chain Infrastructure

### Social Entrepreneurship and Volunteering Program || Jakarta, Indonesia (Summer'18)

*International Volunteering for Better Inclusivity 2018- "Peace and Justice"*

- Selected as a part of **contingent** from **India** to participate in the **International Community Engagement Program** jointly organized by the top 3 Indonesian Universities with the theme- "Peace and Justice"
- Proposed a **business plan** for **social enterprise** for the Cireundeu village and the Johar Baru community in Indonesia
- Presented **inclusivity & economic policy** recommendations to the **Ministry of Social Affairs**, Republic of Indonesia

## POSITIONS OF RESPONSIBILITY

### Institute Classical and Folk Arts Secretary || Institute Cultural Council, IIT Bombay (April'18-Present)

- Heading the Classical and Folk Arts genre in the institute while leading a **6-member team** and managing an overall budget of **INR 15 Lakhs** ensuring its optimum utilization for various events
- Conceptualizing and executing **30+ events** in the academic year to cater to **10,000+** students and faculty
- **Promoting appreciation** of Indian classical and folk music, dance and art forms in the institute through **workshops**
- Organizing **professional concerts, demonstrations** and **workshops** under the banner of Virasat
- Initiated **regular classes** for students to learn various music and dance forms like Bhangra, Kathak, Flute, and Vocals

### Institute Student Mentor || Student Mentorship Program, IIT Bombay (April'18-Present)

- Selected as one of the **11 third year students** based on **all round**, social and academic assessment along with careful peer review, in a team consisting of **91 students** out of **290 applicants**
- **Mentoring 12 freshmen** to help them with academics, time management and life at IIT Bombay

### Department Academic Mentor || Student Mentorship Program, IIT Bombay (April'18-Present)

- Selected as one of the **10 third year students** to be part of the Department Academic Mentorship Program team
- Mentoring **6 sophomores** and providing them additional assistance for academics and time management
- Formulating **quality content** for the Department Mentor **blog** to help peers get prior reviews of courses

## RELEVANT COURSES UNDERTAKEN

Thermodynamics, Numerical Analysis, Transport Phenomena, Fluid Mechanics, Heat Transfer, Solid Mechanics, Computational Methods Lab, Chemical Reaction Engineering, Mass Transfer, Data Analysis and Interpretation, Chemical Engineering Lab	Electronics and Electrical Engineering, Psychology, Biology, Computer Programming, Economics, Calculus, Entrepreneurship, Environmental Science, Human Resource Management, Marketing, Differential Equations, Linear Algebra, Quantum Physics, Electrodynamics, Physics Lab
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## EXTRACURRICULAR ACTIVITIES

### MUSIC:

- Professionally trained in **Hindustani Classical Vocal Music** for nearly **11 years**
- Performed **Indian Classical Music** on account of Diamond Jubilee Celebrations of IIT Bombay in the presence of **Governor of Maharashtra**, C.Vidyasagar Rao (‘18)

### VOLUNTEERING and SOCIAL SERVICE:

- Successfully volunteered for **80 hours** under **NSS** at an NGO named Asha. Designed and taught interactive, fun math and reading classes to a group of 12 students of Grade 6<sup>th</sup>-10<sup>th</sup> (‘17)
- Awarded **Volunteering Excellence Certificate** for Volunteering Service in **Discipline** as the **Head Boy** (‘12)

### SPORTS and ACADEMICS:

- Recipient of the **Central Sector Scheme of Scholarships** for college and university students (‘17)
- Ranked 1 in both **Math and Science Olympiads** conducted by **EduHeal Foundation** in the School (‘17)