



Arjav Shah
Department of Chemical Engineering
Indian Institute of Technology Bombay

Roll Number: 160020004
Undergraduate Third Year (B.Tech.)

Examination	University	Institute	Year	GPA/%
Graduation	IIT Bombay	IIT Bombay	2019	9.13/10.0
Intermediate/+2	CBSE	Radiant English Academy	2016	96.0 %
Matriculation	CBSE	J. H. Ambani Saraswati Vidyamandir	2014	10.0/10.0

Pursuing a minor degree in Management at Shailesh J. Mehta School of Management at IIT Bombay

SCHOLASTIC ACHIEVEMENTS

- Recipient of the 'Future Research Talent Award' by the Australian National University, Canberra, Australia (2019)
- Awarded the 'Undergraduate Research Award, URA01' for outstanding contribution to research at IIT Bomb (2019)
- Presented a [research paper](#) titled "Modeling of heat extraction in abandoned oil and gas wells" at the 44th (2019)
Annual Stanford Geothermal Workshop at Stanford University in February '19
- Currently holding Department Rank 6 in a batch of 135 students in the Chemical Engineering Department (2019)
- Presenting author of research work accepted for poster presentation at American Geophysical Union's (2018)
Fall Meeting to be held in Washington D.C. from 10-14 December, 2018
- Awarded the American Geophysical Union Student Travel Grant to attend AGU Fall Meeting 2018 (2018)
- Certified as Level-1 Social and Behavioral Research Investigator by Collaborative Institutional Training (2018)
Initiative under requirements set up by the Spelke Lab for Developmental Studies Harvard University
- Awarded the prestigious KVPY Fellowship by Department of Science and Technology, Government of India (2016)

PROFESSIONAL EXPERIENCE AND TRAINING

Delegate, Social Entrepreneurship and Volunteering Summit || Jakarta, Indonesia (July 2018)

International Volunteering for Better Inclusivity 2018 [Theme: "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

Teaching Assistant || Biosciences and Bioengineering Department, IIT Bombay (Jan 2018-May 2018)

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 Intern || Auxesis Group (May 2018-June 2018)

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-3rd Generation Block Chain Infrastructure

LEADERSHIP EXPERIENCE

Institute Classical and Folk Arts Secretary || Institute Cultural Council, IIT Bombay (April 2018-April 2019)

- Headed the Classical and Folk Arts genre in the institute while leading a 6-member team and managing an overall budget of INR 1.5 Million ensuring its optimum utilization for various events
- Conceptualized and executed 30+ events in the academic year to cater to 10,000+ students and faculty
- Promoted appreciation of Indian classical and folk music, dance and art forms in the institute through workshops
- Organized 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 2018-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 2018-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

RESEARCH EXPERIENCE

Research Assistant, Seismicity and Mathematical Geophysics Group, ANU (May 2019-Present)

Guide: Dr. Rhodri Davies, Research School of Earth Sciences, Australian National University

- Modeled thermo-chemical mantle convection to study mantle dynamics and geothermal reservoirs
- Integrated the module to compute “seismic anisotropy” in the lithosphere into Fluidity, the next-generation computational modeling framework for geodynamical research

Research Assistant, Computational Geomechanics Laboratory, IIT Bombay (June 2018-May 2019)

Title: Reuse of abandoned oil and gas wells for geothermal energy production

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

- Coupled 2-D thermal reservoirs with 1-D wellbore heat transfer model to simulate geothermal energy production
- Investigated the feasibility of deep Borehole Heat Exchanger applications within wells with a mathematical model to achieve outlet fluid temperatures $>40^{\circ}\text{C}$ for 1000 m deep wells in regions with temperature gradients $>7^{\circ}\text{C}/100\text{ m}$
- Simulated and analyzed the effects of the thermal reservoirs on energy and electric power output using COMSOL
- Evaluated the change in transient temperature profiles with varying mass injection flow rate, injection temperature

Research Assistant, Entrepreneurship and Talent Management (June 2018-Present)

Title: Measuring Entrepreneurial Competencies

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

ADDITIONAL PROJECT WORK

Event Management Enterprise Business Model || Course Project (July 2017-Nov 2017)

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

Rover Design-Mechanical Subsystem || Mars Rover Mission, IIT Bombay (Sept 2016-July 2017)

- 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

COMPUTER PROFICIENCY/COMPUTATIONAL SKILLS

- **Image Processing and Analysis:** Paraview, MATLAB, Python
- **Design & Development:** AutoCAD, SolidWorks, Adobe Premiere Pro, Autodesk Inventor
- **Simulation Packages:** Fluidity, GMSH, COMSOL Multiphysics
- **Programming:** Python, C/C++, HTML, MATLAB
- **Publishing:** LATEX, Microsoft Office

INTERESTS AND ACTIVITIES

VOLUNTEERING and COMMUNITY SERVICE:

- Volunteer and Mentor || GyanAngels Foundation (Jan 2017-Present)

GyanAngels: Non-profit education and mentorship foundation, Mumbai

Trained to be an effective mentor of adolescent school children to nurture achievers globally

Mentoring a grade XI student to help him cope with academics and manage time effectively

Fostering interest in subject of choice, motivating to study hard to achieve goals and developing hope and resilience

- 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 6th-10th (2017)
- Awarded Volunteering Excellence Certificate for Volunteering Service in Discipline as the Head Boy (2012)

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 (2018)

SPORTS and ACADEMICS:

- Recipient of the Central Sector Scheme of Scholarships for college and university students (2017)
- Ranked 1 in both Math and Science Olympiads conducted by EduHeal Foundation in the School (2017)
- Successfully completed a two semester course in Cricket under the NSO program at IIT Bombay (2016)