

Vidit Bhimrajka

43B Jolly Maker 1, Cuffe Parade, Mumbai, 400005

EDUCATION

Dhirubhai Ambani International School (DAIS)

2020 – 2025

- IB: HL – Physics, Chemistry, Math AA | SL – Economics, English, Spanish AB
- IGCSE Program: 8A*s and 3As

STANDARDIZED TESTING

Scholastic Assessment Test: 1550 (Math: 800 | English 750)

March 2024

TOEFL: 107/120

September 2024

ACADEMIC AWARDS AND HONOURS

School

- Grade 11 Academic Achievement and Effort awards in 5/6 subjects 2023-2024
- Grade 10 Honour Roll: Awarded to students with at least 5A*s and no grade less than a B June 2023
- Consistent Academic Achievement Awards in Grades 9 and 10 2021-2024

National and International

- Distinction in Hypatia Math Contest (Score of 30 and above) April 2024
- High Distinction in Avogadro Chemistry Olympiad (Ranked in India's top 30) May 2024
- Runner-up at the International Space Settlement Design Competition (SSDC) at NASA July 2024
- Winner of the Asian Regional Space Settlement Design Competition in Dubai and Indian round March 2024
- Distinction in International Chemistry Quiz held by RACI August 2024

COMMUNITY IMPACT PROJECT

- **Design and installation of HDPE-based hand-wash stations in rural schools, Maharashtra** 2023-2024
 - Replaced heavy, metal hand-washing stations with lightweight, low-maintenance stations
 - Worked towards developing practices of efficient water usage
 - Induced sustainable, hygienic practices in 1797 children and adults

LEADERSHIP

- **Director of Engineering** at 3 'Space Settlement Design Competition' rounds October 2023- June 2024
 - Lead the design for a space settlement using 3D-design softwares and structural research
 - Managed groups of 12 to 60 students
- **President of Robotics Club, DAIS** August 2023 – May 2024
 - Taught 30 students of grade 8-10 CAD and Robotics Assembly
 - Designed a children's arithmetic teaching device called a Bee-Bot
- **Dhirubhai Ambani International School Journal of Science, DAIS** December 2023 – Present
 - Initiated a STEM Journal for high school students
 - Encouraged students to do research and published a volume of ten papers

MATERIALS SCIENCE EXPERIENCES AND RESEARCH

Research

- **Internship at CF-SPAN, a carbon-fibre product manufacturer, Midland, Michigan** June – July 2024
 - Learned about material testing, composite processing, adhesives, and load distribution
 - Conducted 3-point bend tests and other mechanical testing on CFRP beams to produce comparative reports on material properties and applications for energy efficient transport
- **Research paper on biopolymers, Institute of Chemical Technology, India's top chemical university** 2023 - 2024
 - Developed PBAT-PLA biopolymer blends and investigated rheological and mechanical properties
 - Learned how to use extruders, UTM, Rheometers under the supervision of Dean Prof. Shashank Mhaske
 - Carried out additional investigations about polyhydroxybutyrate properties, nucleating agents and blown-film extrusion capabilities of novel biopolymers

Learnings and Observations

- **Learnings and Observations at polymer industries and plants, Mumbai** 2023 – Present
 - Interned at RelWood, manufacturers of a wood alternative based on natural fibres and PVC
 - Interacted with the 'Circularity and Sustainability Leader' at the Dow Chemical Company to understand pollution due to polyolefins and the outlook of PE recycling.

Independent Investigations

- **Chemistry Extended Essay: Effect of processing temperature on bioplastic properties**, DAIS 2024
 - Investigated crystallinity and yield strength of thermoplastic starch films on biodegradation rate

SPACE SETTLEMENT DESIGN COMPETITIONS

Competitions

- Runners-up at the International Space Settlement Design Competition July 2024
 - Won amongst 250 students that qualified for ISSDC out of 15000 students
 - Designed a lunar settlement located in a crater that served to store data without heating costs
- Winner of Asian Regionals and Indian Nationals January 2024 – April 2024

Mentor and Ambassador

- **Mentored high school students on structural engineering and SSSC competitions** June 2024 – Present
 - Taught team members graphics software, material properties, and structural design elements
- **SSDC Ambassador** June 2024 – Present
 - Conducted seminars in school to introduce students to SSSC
 - Conducted 'Space Quizzes' and planned an assembly for the India's first National Space Day

SCIENCE AND TECHNOLOGY ENDEAVOURS

- **Independent analysis: Conditions in the early universe that induced galaxy formation** June – September 2022
 - Read in-depth, scientific literature on cold dark matter, star formation and inflationary theory to write a 16-page paper on formation processes and classification studies
- **Literature review: Understanding exoplanetary chemical compositions using spectroscopy** May – September 2021
 - Read about different types of spectroscopy and how spectral data is used to investigate exoplanetary atmospheres
 - Explored and analyzed transit curves and biosignature detection tools
- **Weather prediction project based on an Australian data set, Veritas AI** January 2022 – March 2022
 - Introduced to machine learning algorithms, train and test data and functioning of neural networks
 - Used python to code a weather prediction algorithm in Australia with 98.5% accuracy

MUSICAL EXPERIENCES

Trinity Rock & Pop Guitar Examinations, Trinity College London 2016 - Present

- Awarded distinction and merit across trinity grades 1 through 8

Sarod, Dhirubhai Ambani International School August – December 2023

- Learned how to play the Indian Classical Instrument 'Sarod' over a span of 5 months
- Performed for 4000 people at the DAIS Annual Performance as a part of the first live DAIS Band

Guitar Performances 2021-2024

- Performed at school events: Farewell, Annual Fete, and Western music competitions
- Played guitar for differently abled individuals at the 'Saksham' NGO

MENTORING AND OUTREACH

- **Guitar mentoring and fundraising for Disc-Jockey sessions, Dharavi, Mumbai** 2024
 - Raised funds to purchase DJ equipment for 8 children at the NGO Dharavi Rocks
 - Played guitar and did percussion activities with rag pickers' children at Dharavi
- **Mentored children on pressing global issues, NGO Muktangan** August 2023 – May 2024
 - Conducted activities with children on current affairs and global issues such as global warming

HOBBIES AND NON-ACADEMIC INTERESTS

- **Regular fossil-hunting expeditions in the UK and India**
 - Learned about carbon-dating, excavation, and fossil identification
 - Went on expeditions to Charmouth and Gujarat
 - Showed my finds to experts and guides at the Chhatrapati Shivaji Maharaj Vastu Sangrahalaya (Prince of Wales museum)
- **Amateur microscopist**
 - Investigated various specimen ranging from common household objects to flora to bacteria under a light microscope
 - Prepared a collection of images of each sample and its scientific details and labelled parts