

ISHAAN SURVE

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EDUCATION

Dhirubhai Ambani International School, Mumbai, India

- International Baccalaureate Diploma Program, Grade 11-12
- Indian Certificate of Secondary Education (ICSE), Grade 8-10

2024 - Present
2021 - 2023

STANDARDISED TESTING AND AP EXAMS

- ACT Score – 36 | Math 36, Science 36, English 35, Reading 36
- AP Score - Environmental Science – 5, Macroeconomics – 5, Psychology – 5, Computer Science A – 5, Calculus AB – 5;
Distinction AP Scholar with Honour Award

2025
2023 - 2024

AWARDS & HONOURS

• *School*

- 42/42 pointers in Grade 11 – IBDP (International Baccalaureate Diploma Program)
- Academic Excellence Award in Grade 11; Subject Achievement Award in Math AA(HL), Chemistry(HL), Physics(HL), English, Global Politics, TOK; Subject Effort Award in French
- 99.4% in Grade 10 - ICSE Board Exams; ICSE Certificate of Merit (Top 0.1% of 2,43,617 students)
- ICSE Certificate of Merit awarded in 4 subjects – Mathematics, English, Computer Applications, History Civics & Geography
- Outstanding Learner Award in Grade 10; Subject Achievement Award in 10 subjects – English, French, History & Civics, Geography, Environmental Studies, Chemistry, Physics, Biology, Mathematics, Computer Application
- Roll of Honour Award in Grade 9; Academic Subject Achievement Award in 10 subjects – English, French, History & Civics, Geography, Environmental Studies, Chemistry, Physics, Biology, Mathematics, Computer Application

2024 - 2025
2024 - 2025
2023 - 2024
2023 - 2024
2022 - 2023

• *Science and Math*

- Indian National Young Physicist Tournament (InYPT) – All India Rank 2; Represented Team India (1 of 5) at IYPT, Budapest
- International Earth Science Olympiad (IESO 2025) - Top 2.5% (Ranked 78 out of 3372) National Level
- S.T. Yau Semi-Finalist in Biology for Mynah (2024) and Chemistry for Permeo-Concrete (2025)
- International Research Olympiad (IRO) - Honour Roll and Semi-Finalist (Top 15%)
- Hong Kong International Science Olympiad (HKISO) - Gold Award
- Hong Kong International Computational Olympiad (HKICO) – Silver Award; Gold Award
- Hong Kong International Maths Olympiad (HKIMO) – Silver Award
- Avogadro Exam, University of Waterloo - Certificate of Distinction
- International Chemistry Quiz (CIQ) - Certificate of High Distinction
- Siam International Math and Science Olympics (SIMSO) - Gold Award

2024
2025
2024; 2025
2025
2022; 2025
2023; 2025
2023, 2025
2025
2025
2025

• *Robotics*

- First Robotics Competition (FRC) won the Creativity Award, Houston, US,
- Regionals Winners & Excellence in Engineering Award - Istanbul; Regional Winners and Engineering Inspiration Award - Halic

2025

• *Writing*

- The John Locke Institute Global Essay Competition – Merit in Politics Category, SGD 500 Scholarship
- Queens Commonwealth Essay Writing Competition – Gold Award
- Elaine Hobson Literary Award, Australia - Certificate Of Achievement. Presented his work at Global Empathy Conference, Australia
- International Never Such Innocence Poem Competition - Certificate Of Commendation, Honourable Mention and Congratulations Letter from former UK Prime Minister, Rishi Sunak

2024
2023
2023
2022 - 2023

SUSTAINABLE ALTERNATIVE INITIATIVES

• *Outreach*

Founder, Praakruti - Mumbai, India

2023 - Present

- Praakruti is a sustainable DIY toy company designed to facilitate unstructured play in young children
- Empower 56 tribal families across 19 Indian states with a second source of income, enlisting their help to source natural elements
- Sold 1263 kit; \$21,050 in revenue; 50% of profits \$4600 have been reinvested into the education of tribal children. Reached 8000+ government school students with hands on sustainability workshop. Established environmental clubs in 10+ schools.
- Sensitized 18,000 villagers across 30+ villages through 70 Nukkad Nataks (street plays) on critical ecological issues in rural Maharashtra
- Awarded the IB Global Youth Action Fund Award from 1100+ applicants and received funding of \$1500 to amplify the social impact along with mentorship from International Baccalaureate Organisation (IBO) experts
- Awarded the Conserve-Protect-Nurture Award by National NGO Vanashakti
- Thapar Entrepreneurs Academy (TEA) – Awarded 1st Place for innovative start-up idea
- Received extensive media coverage in Bizz Buzz Newspaper (28th April 2025) and Eco-Hero title in Mumbai Samachar (5th June 2025)

2025
2023

• *Innovation*

Permeo-Concrete: Permeable Ferrocement Bricks

2025

- Innovated high compressive strength permeable ferrocements, under the mentorship of Dr. Mariwala, Founder & CEO, SMAART Water
- Designed solution applicable to 193 million kilometres of global roadway infrastructure to prevent urban flooding
- Enabled rainwater percolation to recharge groundwater tables and address 60% of Indian aquifers facing critical depletion within two decade
- Accepted for IEEE International Conference on Innovate for Humanitarian (ICIH), presenting in Nov. 2025

PLANT PROTECTION AND FARMER WELFARE

• *Mynah*

2023 - Present

- Engineered end to end technology driven system to manage locust swarms, which threaten 10% of global food supply.
- Innovated a Machine Learning Model to analyse climatic conditions and predict future locust hotspot zones.
- Developed a Computer Vision powered mobile app enabling locust officers and farmers to differentiate between solitary (harmless) locusts and gregarious (destructive) locusts.
- Conceptualised autonomous swarm robotics drone system monitoring 650,000+ square kilometres of desert terrain.
- Integrated eco-friendly Neem oil bio-pesticide delivery for sustainable locust population control.
- Research paper published in IEEE Xplore (Apr. 2025) and presented in the International Conference on Visual Analytics and Data Visualisation.
- Accepted for IEEE International Conference on Innovate for Humanitarian (ICIH), presenting in Nov. 2025
- Implemented & acknowledged by Directorate of Plant Protection Quarantine & Storage - Ministry of Agriculture & Farmers Welfare, GOVERNMENT OF INDIA; Received extensive media coverage in a leading newspaper Dainik Bhaskar (7th May 2025, Bikaner)
- Awarded Crest Gold Award (2025) and STEM X Best Innovative Idea Award (2024)

- **Impact of Urban Stressors on Plant Physiology** 2024-2025
 - Researched on the 'Impact of Urban Stressors – Artificial Light at Night and Particulate Matter on Plant Physiology and the Urban Ecosystem' and proposed multiple technological, legislative and educational solutions to enhance the effectiveness of urban green infrastructure and strengthen urban biodiversity.

STEM AND ENVIRONMENTAL EXPERIENCES

Internships

- **Mumbai Municipal Corporation (MMC) 2900MLD Water Treatment Plant**, Mumbai, India 2025
 - Largest Drinking Water Treatment Plant in Asia responsible for treating 2.9 billion litres of lake water daily to meet the potable water demands of 21.7 million people of Mumbai.
 - Shadowed Civil, Mechanical and Electrical Engineers from all the departments including pre-treatment, filtration, pumping, chlorination and water analysis to gain in depth understanding of the engineering and scientific principles leveraged by the plant
 - Developed an AI system to optimise the PAC load determination hence reducing water turbidity with limited Aluminium dosage.
- **Fluid Analytics (Robotics)**, Pune, India 2024 - 2025
 - A wastewater analytics company leveraging robotics and AI to monitor wastewater and maintain civic infrastructure. Winner of World Economic Forum Top Innovator Award in 2024.
 - Under the mentorship of Chief Product Officer – Nidhi Jain, developed an AI powered system that detects and classifies underground pipe defects and integrated my system within the Fluid Analytics workflow.
- **MIT Media Lab**, Boston, US 2024 – 2025
 - Under the mentorship of Professor Ramesh Raskar, Associate Director - MIT Media Lab, interned at the Neuro86 startup to develop a prototype web app which leverages AI to support patients suffering from neurodegenerative disorders like Dementia and Alzheimer's through their recovery journey which won funding from the PathCheck Foundation.
- **Vanashakti NGO**, Mumbai, India 2022 – Present
 - Vanashakti is a pan-India NGO dedicated to protecting India's biodiversity and wetlands.
 - Managed Vanashakti's social media account, organised awareness sessions in Mumbai and Navi Mumbai schools on food security, plastic pollution and importance of wetlands
 - Designed and distributed mangrove booklet to 3000+ Mumbaikars and participated in mangrove clean-ups
 - Researched on mangrove issues like the Hyblae Puera Mangrove pest infestation and water quality, raised awareness on key issues like pollution, mangroves, forest fires and economic value of wetland ecosystems.

Research

- Researched in fluid dynamics, static electricity and projectile kinematics under the mentorship of Shashikant Pandey, 2023 – 2024
Executive Committee Member of the World Federation of Physics and presented the report as part of team India at the International Young Physicist Tournament in Hungary. Mentored Team India 2025 winning the first ever Honourable Mention in Sweden.

Independent Projects

- ORCA - Innovative aqua mobile design mimicking blue whales which bio-remediates oil spills and produces bio-plastics. *Certificate of Achievement for Top 9 in Harvard Undergraduate Clean Energy Group in Sustainability & Innovation Challenge.*
- Sound of STEM - A raspberry-pi based product to gamify STEM for visually impaired students. *Article published in Stem Best Practice Magazine.*
- Mist the Dust - Research project and developed IOT based misting system prototype to reduce particulate matter pollution from construction sites. *Awarded Silver for Top 0.9% in Dr. Homi Bhabha Balvaidnyanik Competition*
- Turning Grey Water into Green Fields - Research concept to develop a grey water purifying centre that reduces nitrate and phosphate levels in sewage discharge and produces fertilisers. *Top 50 – Sony BBC Young Earth Champions Contest.*

Outreach

- Organised 'Solve for Society' a pan-India competition empowering 4000+ underprivileged Indian students to solve real world problems with STEM. Mentored students in CAD, programming and idea development. Fundraised to provide funding to top 30 teams to develop their prototypes and secured mentorship from Indian Institute of Technology – Bombay (IITB) 2023 - 2025
- Mentored underprivileged FIRST Tech Challenge robotics teams–Aeonian Ladies Force and CuriousCity since the last 3 years
- Led Elev8's outreach initiatives – Hackathon, Robotics Deconstructed, FTC Scrimmage and Rookie Teams Saturday
- Guest Speaker at 'Green Warriors of NRB' - Swachh Radio Channel, honoured with ECO HERO title. 2020
- Podcast speaker on World Environment Day by Janmat Manch - A meaningful platform for cultural, social, and educational discussions 2025

CERTIFICATION COURSES

- Thermal Fluid Engineering: Basics of Thermodynamics and Hydrostatics, MIT X 2025
- Exploring Renewable Energy Schemes – Coursera, University of Pennsylvania 2025
- Nurturing Innovators Programme on Computer Vision and Artificial Intelligence (AI) with Professor Pavlos Protopapas, Scientific Program Director - Institution of Applied Computational Science, Harvard University 2023
- Java Programming and Software Engineering Fundamentals 5 courses Specialisation – Coursera, Duke University 2019-2021

LEADERSHIP

- Round Square Student Council Chair, Student Council Dhirubhai Ambani International School 2024 - Present
- Pioneered and launched the first Dhirubhai Ambani International School - Sustainable Innovation Challenge as President 2023-2025
- FIRST Robotics Competition (FRC) - Team Elev8 Captain 2025
- FIRST Tech Challenge (FTC) - Team Eureka Captain 2022
- Core Organiser (1 of 5) of CAS Fete, Charity Fundraiser at Dhirubhai Ambani International School. Raised over 9000 USD, was responsible for Raffles, co-ordination with NGOs, stalls and the Recyclathon initiative.

THEATRICAL AND COMMUNICATION ACHIEVEMENT

- Singapore International School Debate Competition - OVERALL BEST DELEGATE 2024
- London Academy of Music and Dramatic Art (LAMDA) - Level 3 Communication, Reading for Performance Grade 8 - *Distinction* 2023
- Trinity College London - ATCL Diploma and Grade 7, 8 – *Distinction* in Speech and Drama 2022 - 2023
- Voice Over Artist for one of the main child character named 'BITTU' for Radio Mirchi's 'Horlicks Jasoos Arjun' show for 2 seasons 2019 - 2020
The show won ACEF 8th Asian Leaders Awards in categories: Best Rural Activation- Gold; Best Content - Gold; Best Mobile Marketing - Silver

TECHNOLOGY SKILLS

Well versed with multiple programming languages for application development, AI & ML and simulations including Java, Dart, Python and more. Proficient in CAD with Solidworks and IOT platforms like IFTTT, ThingsSpeak and large scale cloud platforms like AWS and GCP

Interests: Reading, Debate, Worldbuilding, Poetry writing, Drama, Nature Trails, Chess, Mythology, Bollywood