

ARNAV DAGLI

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EDUCATION

- **Chatrabhuj Narsee School, Mumbai, India** 2017-Present
- International Baccalaureate Diploma Program, Grade 12; 2023-Present
- Cambridge IGCSE Board Examinations, Grade 10 2022-2023
- **Plaksha University, Mohali Punjab, India** 2023-2024
- Received a scholarship for a two-week summer intensive program, addressing real-world engineering problems.
- Led team of 5 to an electromyography (EMG) project, developing a robotic hand that mimics human palm movements.
- Used ESP32, EMG sensors and Arduino to create robotic arm.

STANDARDIZED TESTS

- SAT – **1460/1600** [Math: 770/800; English: 690/800] 2024
- IELTS – Over all Band Score **8.5** 2024

ACADEMIC HONORS AND AWARDS

- Recipient of the prestigious 50% Chairman's Scholarship for the IB Program. 2023-2025
- Subject Excellence Achievement Award in Physics HL, Chemistry HL, Math HL in Grade 11. 2023-2024
- SASMO (Singapore & Asian School Math Olympiad) **Gold** Medal – School Rank:1; India Rank:5; World Rank: 16 2023-2024
- University of Cambridge ICE Certificate for Grade 10 with 5A*'s 2A's. 2022-2023
- AMC 12(A) – 114/150; Distinction 2022-2024
- British Science Association Crest **Gold** Award. 2024

LEADERSHIP

- Sports Captain for the Student Council Committee, overseeing and promoting sporting events and activities. 2023-2024
- Badminton Captain. 2022-2023
- Youth Ambassador, The Hundred x IBO Partnership - Honored to be 1 of 300 selected global Candidates. 2023-2024
- Torch Bearer at the School's Annual Sports Meet for over 3 years. 2019-Present
- Led Quintessence sports event as Flag Bearer and Torch Carrier, inspiring students with motivational speech. School Won the Sports cup, Cultural Cup, and Quintessence Cup. 2023-2024

INNOVATION

- **Smart Badminton Racquet | 2024**
- Analyzed badminton player energy consumption & RSI using IOT sensors & data analysis, investigating energy dynamics to prevent injuries & optimize performance.
- Developed predictive model to prevent RSI and optimize performance.
- Utilized MPU6050 sensors, smartwatches, and velocity diagrams for accurate measurements.
- **Unity Lab Grown Diamonds (ULGD) | 2023- 2024**
- Improved infrared camera image quality in diamond deposition chambers.
- Designed and tested bore/window modifications and alternative materials.
- Collaborated with Instrumentation Group to ensure system precision.

ENGINEERING EXPERIENCES & RESEARCH

Research & Internship

- **Dharmaj Technologies, Surat - Gujarat, India | 2024**
- Gained hands-on experience with laser diamond processing machinery.
- Developed a deeper understanding of motor control, laser technology, and engineering applications.
- **Diatech, Virar - Maharashtra, India | 2024**
- Conducted independent research on improving gem-cutting efficiency and collaborated to design a high-efficiency Scaife.
- Focused on sustainability and innovation, applying creative problem-solving and communication skills.
- **Unity Lab Grown Diamonds (ULGD), Surat - Gujarat, India | 2023- 2024**
- Worked with the Instrumentation Group, focusing on chemical vapor deposition for diamond and semiconductor wafer production.
- Contributed to team designing protocol for optimized infrared camera views in deposition chambers, leveraging understanding of chemical processes and safety protocols.
- **Uni Design Jewellery, Mumbai, India | 2023**
- Learning about the jewellery making process, market research, and quality assurance.
- Gained proficiency in 3D printing, CAD software, electroplating and integrating engineering principles into business operations.
- **Math Literature Review, Mathematically Optimizing Wind Turbine Blades | 2024**
- Optimized wind turbine blades with BEM theory and genetic algorithms to boost energy outputs and reduce costs.
- Used statistical models like the Weibull distribution to customize turbine designs for specific wind conditions.

Online courses

- Maths Statistics, Stanford University, Final Grade: 95.07% (July 2024)
- Fundamental Skills in Engineering Design, University of Leeds, Final Grade:100% (May 2024)

- Introduction to Thermodynamics, University of Michigan, Final Grade: 97.41% (Dec 2023)
- Mechanics, UNSW Sydney, Final Grade: 93.57% (October 2023)

BADMINTON ACHIEVEMENTS

- 3x Gold medalist & 1x Bronze medalist -boys singles & doubles at International School Sports Organization (ISSO) Nationals (2022-2023)
- Awarded as best player of the tournament in Boys Singles U/19 (2024)
- Silver medalist at Yonex Sunrise Maharashtra State Open, Boys singles Mumbai (2023)
- 2x Bronze Medalist (Boys Singles & Doubles) at Jito National Games (2022)
- 1Gold, 1Silver,1 Bronze-Boys singles & Team event at Quintessence & Mumbai School Sports Association (MSSA) Inter School tournaments (2022-2023)
- 10x Gold, 4x Silver, 1x Bronze medalist at various Inter house, Intra club & Zonal tournaments [2017-Present]
- Selected 4 times in the Team of 5 to represent International schools (IBSO) for School Games Federation India (SGFI) (2019-Present)

YOUTH AMBASSADORS PROGRAM | February 17-May 25, 2024

- Selected as one of 300 global candidates for Youth Ambassador Program (The Hundred x IBO partnership) highlighting my commitment to leadership and global change.
- Collaborating with young leaders to address Sustainable Development Goals (SDGs) and global challenges.

TREKKING

2018-Present

- Hampta Pass Trek, Himachal Pradesh, India, 6 days, 25 km, 14,065 ft.
- Recognized as the youngest trekker at Hampta Pass Trek, and awarded the "Trekker for Life" badge for outstanding commitment to the Green Himalaya initiative.
- Valley of Flowers & Hemkund Sahib Trek, Uttarakhand, India, 5 days, 35 km, 11,550-14,400 ft.
- Sangla Valley Trek, Himachal Pradesh, India, 5 days, 24 km, 10,000 - 11,811 ft
- Hatu Peak Hike, Himachal Pradesh, India, 7-8 hours, 7 km, 11,155 ft
- Triund Trek, Himachal Pradesh, India, 6-7 hours, 9km, 9350 ft.

EXTRACURRICULAR ACTIVITIES

2018-Present

Environmental initiatives

- Participated in a waste segregation drive at high altitudes (14065 feet) in the Himalayas, promoting environmental sustainability in challenging terrain.
- Bronze Medal, International Award for Young People (IAYP) for community service, adventurous journey, skills development and physical recreation.

COMMUNITY OUTREACH

Jivadaya Charitable Trust (Animal Welfare Organization) | 2021 - Present | Mumbai

- Volunteered to rescue injured birds, ensuring they received proper medical care, contributing to wildlife conservation efforts.

Tribal Village Initiative | Parikh Foundation | July 2024 | Nalvas, Gujarat India

- Volunteered in remote tribal village development, promoting land leveling, lift irrigation, tree plantation, and dam desilting (also creating artificial lakes) with local farmers.
- Educated families on the value of education and contributed to sustainable water resource management.
- Practical applications of math, chemistry, and physics in implementing irrigation and land management solutions.

Educational and Community Engagement with NAATA Foundation | 2024 | Mumbai

- Conducted interactive lessons on Math, English, and essential life skills, fostering personal growth and confidence.
- Organized community-building activities, including a sports day and Christmas arts and crafts to promote creativity and teamwork.

PROGRAMMING SKILLS

Arduino (smart device development) | Python (basics, Plaksha University Summer School)

INTERESTS

- Scuba diving (Padi level 1 Certified), Trekking, Traveling, Gardening, and Cultural exploration
- Guitar (Merit in Rock & Pop Guitar Grade 1 and Music Theory Grades 1 & 2 in Trinity College London examinations)