

## Aayush Modi

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### EDUCATION

BD Somani International School, Mumbai, India	2023-Present
- <i>International Baccalaureate Diploma Programme, Grade 12</i>	2021-2023
- <i>IGCSE, Grade 10</i>	

### ACADEMIC HONORS AND AWARDS

• Principal and Honor Roll for Academic Excellence, Grade 8 - 12	2019-Present
• Subject Prize, Computer Science Grade 10	2022
• Subject Prize, Additional Mathematics, Grade 9	2023
• Distinction (awarded to the top 25% of scorers), Best in Year, University of Waterloo Fermat Mathematics Competition	2024
• Distinction, University of Waterloo Avogadro Exam	2024
• Sir Isaac Newton Exam 2024, Certificate of Participation	2024
• Finalist, High Commendation John Locke Essay 2024, Economics	2024
• Gold, Best in Year, UKMT Intermediate	2024

### SCIENCE EXPERIENCES AND OUTREACH

#### **Outreach**

- *Totallyaboutphysics.in* 2024  
Over the last year, a number of my juniors and friends have asked where I find resources to extend my interests beyond academics. I use Youtube and Instagram as my primary sources. I've also been recommended a lot of very helpful books. I put all these resources together as a one-stop shop. This is a constantly evolving crowd-sourced resource guide.
- *PetPawtal* 2023-Present  
This is a work in progress. A few years ago, I adopted my dog from a local animal adoption camp. I also volunteer at the Welfare for Stray Dogs. The idea for this portal came up because people shouldn't have to depend on camps to adopt and foster. This app will be used by charities to put up any rescues that need homes. It then communicates with those interests via Whatsapp.

#### **Internships**

- **Borosil Factory, Jaipur** 2024  
Borosil is the largest manufacturer of glass in India. At the factory in Jaipur, they produce homeware made of Borosilicate glass. It was extremely interesting for me to learn the process of glass-making, using locally sourced materials. I had the opportunity to see up close the furnace at work, and then also the process used to test the toughness of the glass.
- **Mochiko Shoe Factory, Rishikesh** 2024  
At this B2B manufacturer of shoes for the world's best-known brands including Adidas and Puma, I learnt about the raw materials used in shoe manufacturing, and the most optimum production methods. I was able to see physics in action through the selection of raw materials and perfect heating methods to create the best soles for the shoes. I got to experience automation, and learn about the operations aspect of the factory and the business in large. I got to shadow the manager at the factory, and spend some time with a private equity firm that has invested in the business, to understand how they did their due diligence, and what they were brought in to do (streamline the manufacturing business).

## **Volunteer Work and Community Outreach**

- **Museum of Solutions, Mumbai, Volunteer, Visitor Experience**

This interactive children's museum has six floors of exhibits, and is the first of its kind in Mumbai. I volunteered during my holidays. I volunteered on the science floor with simple problem-solving science experiments based on air, and also helped with their first-ever Halloween event for children. 2024

- **Independent Exploration and Research** 2024

Physics: How Does Changing The Number Of Steel Balls In Each Stage Of A Gauss Rifle Affect How Fast The Steel Ball Will Travel Using Projectile Motion? *Extended Essay, BD Somani International School*

Chemistry: How Does The Hydrogen Peroxide ( $H_2O_2$ ) Content In A Batch Of  $25 \pm 0.01$ g Of Garnier Hair Bleach Solution Change After Being Kept At Room Temperature, keeping all conditions constant. *Internal Assessment, BD Somani International School*

Mathematics: Finding the distance/path traveled and time taken by a satellite from Earth to Saturn using logarithmic spirals and polar coordinate systems. Finding the initial position of Saturn when the Satellite is launched. *Internal Assessment, BD Somani International School*

- **Online Courses**

Introduction to Material Science, University of Arizona State University 2024

- **Robotics**

Participated in the First Technology Challenge as part of a group at the Goa International Robotics Festival. Under a very strong mentor, we won an award for alliances. 2024

## **SUMMER PROGRAMMES**

- **Global Summer School, Imperial College London** 2023

I attended the Global Summer School in the Physics stream. In the first week, under the guidance of Imperial professors, we studied concepts like Simple Harmonic Motion. The second week focused on entrepreneurship, where my group worked on an app to encourage young children to become more active. We developed a pitch document, and then presented it to a panel.

- **Young Technology Scholars Program, Plaksha University, Chandigarh** 2024

In the first week we worked on circuits, electronics, microcontrollers and programming. We also wrote code and wrote algorithms. This was useful to me as I was working on a website and an app over the summer which I got to share with some of my batchmates and get feedback. For the group project. I worked on wind energy, as I had worked on the same topic for my Combined Science Project at school. My project was called WISSH (Weather Information System for Smart Homes). We built an anemometer using a 3-D printer. We got to work in the university's Maker Laboratory, which is an incredible repository of tools.

## **LEADERSHIP**

- President, Senior School Student Council, 2023-Present
- President, Middle School Student Council 2019
- President, Junior School Student Council 2016
- Team captain, Cricket, Under-16, ISSO 2022
- Deputy Sports Head, Grade 10 2022