

**RAAHIL MULLICK**  
B-53, Cozihom, Pali Hill, Bandra West, Mumbai 400050, India  
Mobile: 9870000587 | Email: [mullickraahil@gmail.com](mailto:mullickraahil@gmail.com)

## EDUCATION

<b>Dhirubhai Ambani International School</b> , Mumbai, India	2011 – Present
• <i>International Baccalaureate Diploma Program, Grades 11-12</i>	2023 – Present
• <i>Cambridge International General Certificate of Secondary Education, Grades 9-10</i>	2021–23

## TESTING

• IBDP Predicted Grade — <b>44/45</b>	2024
• SAT — <b>1580/1600</b> [Math: 800/800; English: 780/800]	2023
• AP Statistics — <b>5/5</b>	2024

## ACADEMIC HONORS & AWARDS

### School

• Co-Topper of 11 <sup>th</sup> Final Exams – IB Score <b>42/42</b> .	2024
• Topper in Math AA HL – <b>99%</b> Avg.	2023
• Batch Topper in Physics HL – <b>92%</b> Avg.	2024
• Topper in IGCSE Additional Math – <b>99</b> PUM.	2023
• Co-Topper in IGCSE International Math – <b>99</b> PUM.	2022
• 8 A* in IGCSE Board Exams.	2023
• <b>Honor Roll</b> in IGCSE Grades 9 & 10.	2022-23

### International

• Selected for SUMaC (Stanford University Mathematics Camp) Residential – <b>Only Indian selected</b> among 40 students worldwide.	2024
• AMC 12(B) – Perfect Score ( <b>150/150</b> ).	2024
• AMC 12(A) – <b>123/150</b> ; Distinction ( <b>Top 5%</b> ).	2024
• AIME – <b>8/15</b> ; School Rank <b>#1</b>	2024
• AMC 12(A) – <b>115.5/150</b> ; Distinction ( <b>Top 5%</b> ).	2023
• Avogadro Chemistry Exam (UWaterloo) – World Rank <b>#24/5100</b> .	2024
• SMT (Stanford Math Tournament) – World Rank <b>#8/1500</b> in Calculus; Distinguished Honors in Algebra.	2024
• BMT (Berkeley Math Tournament) – World Rank <b>#11/650</b> in Calculus; Honors in Algebra.	2024
• Pascal Contest (CEMC) – <b>Top 1%</b> – Student Honor Roll IV.	2022
• Hypatia Contest (CEMC) – <b>Top 2%</b> – Student Honor Roll IV.	2024
• ABWA Infinity by BITS Pilani – India Rank <b>#3/204</b> .	2024
• Purple Comet! Math Meet – <b>Top 3%</b> .	2024
• AIMO (Asia International Mathematical Olympiad) <b>Gold</b> Medal.	2024
• HKIMO (Hong Kong International Mathematical Olympiad) <b>Gold</b> Medal.	2024
• PIMSO (Philippine International Math and Science Olympics) <b>Gold</b> Medal.	2024
• World Economics Cup – India Rank <b>#3</b> .	2024
• A Beamline for Schools (BL4S) – Won Outreach Award – <b>Top 3%</b> of 461 teams.	2024
• Sir Isaac Newton Physics Exam (UWaterloo) – <b>Top 10%</b> .	2024

## MATHEMATICS EXPERIENCES

### Enrichment Programs

<b>SUMaC (Stanford University Mathematics Camp)</b> , Prof. Rick Sommer, Stanford, California.	2024
• Selected to attend the rigorous proof-based 4-week program on Number Theory & Abstract Algebra.	
• Studied algebraic structures like groups, vector spaces, rings, and fields. Learnt number theoretic applications like cryptosystems.	
• Investigated symmetry, polynomials, sphere-packing, and Galois theory. Culminated in a research project on polygon constructibility.	
<b>Program in Algorithmic and Combinatorial Thinking (PACT)</b> , Prof. Rajiv Gandhi, UPenn & Rutgers.	2023
• One month, intensive (12 hr/day) math program. Learned graph theory, combinatorics, probability, formal logic, set theory, and proofs.	
• Gained deep insights into mathematical concepts fundamental to Computer Science.	

### Research

<b>SUMaC Research Project</b> , mentored by Prof. Rick Sommer, Stanford University.	2024
• Researched the Gauss-Wantzel Theorem; investigated the necessary and sufficient condition on $n$ for a regular $n$ -gon to be constructible.	
• Used Cyclotomic Fields & Galois Theory to construct the connection between constructibility and Fermat primes.	
<b>Fractional Calculus: Real-Ordered Derivatives &amp; Integrals</b> , Mathematics Extended Essay.	2024
• Conceptualized & characterized the Riemann-Liouville Fractional Derivative & Integral.	
• Investigated properties & implications and generalized the fractional derivative & integral of any polynomial.	
• Considered other approaches like Caputo & Grunwald-Letnikov. Researched real-world applications.	
<b>Statistical Analysis of Noise Pollution Levels (Construction-Induced) in Pali Hill</b> , Bandra, Mumbai.	2024
• Studied the effect of reconstruction on noise pollution levels in my locality, Pali Hill and evaluated the effectiveness of proposed solutions.	
• Analysed data from three different construction sites in Pali Hill. Investigated the variation of sound levels between different work stages.	
• Compared noise levels from different sides of the site to evaluate which residents are affected the most. Presented my research; campaigned.	

### Internships

<b>Tara Capital Partners India Pvt Ltd</b> , Hybrid Internship, Mumbai.	2024
• Worked with Zhoufang Wei, Chief Risk Officer, to create a Monte Carlo Simulation model to accurately calculate the Value at Risk (VaR) of a given stock market portfolio. Learnt the importance of VaR in portfolio risk management and applications in trading.	
• Used Python to compute and interpret VaR to create a diverse and well-balanced portfolio. Implemented my model on Tara Capital Partners' real-world Indian market data and curated the portfolio accordingly.	

## CHEMISTRY & ENGINEERING EXPERIENCES

### Research

<b>Evaluating an Alternative to Mercury Glass Thermometers</b> , Research Internship with Mayuresh Associates, Mumbai.	Jun-Sep 2024
• Published in the International Journal of Novel Research and Development (Impact Factor <b>8.76</b> )	
• Awarded CREST Gold by professionals in the field by achieving all 15/15 criteria (11/15 required for Gold).	
• Compared the accuracy, precision, range, repeatability, and response time of SafeTherm to Mercury thermometers.	
• Proposed SafeTherm as an alternative liquid due to the ban on mercury for its toxicity.	
<b>Hydrophilicity Molecular Simulations</b> , mentored by Prof. Vishwanath Dalvi, Institute of Chemical Technology, Mumbai.	Jun-Dec 2024
• Investigated the difference between global and local surface hydrophilicity/hydrophobicity.	
• Used GROMACS to create Molecular Simulations of protein molecules.	
• Conducted experiments using the simulation to investigate the hypothesis.	
• Culminating in a research paper to soon be published in a peer-reviewed journal.	

## Internships

**Zelle Biotechnology Pvt Ltd**, Analytical Laboratory, Mumbai (1 week).

Dec 2022

- Learned accurate use of the micropipette and pH meters. Applied techniques for buffer preparation. Learned protein separation methods.

## Enrichment Program

**Young Technology Scholars (YTS)**, Engineering Program, Plaksha University, Punjab.

2023

- Received a scholarship to attend the two-week, intensive (10 hr/day) program. Used C++ to program an ESP32 and Arduino device to create the Robot. Captained my team of 5 students to develop the Robotic Arm that replicates Human Hand Movement using EMG Sensors.

## CHESS INTERNATIONAL MASTER (IM)

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### Notable Awards

- Gold Medal at U-15 Asian Schools Championship, in Sri Lanka.
- Gold Medal at Asian Nations Cup.
- Gold Medal at Commonwealth Games.

2022

2021

### Rankings

- **World Number #1** in U-12
- 2<sup>nd</sup> Youngest International Master of India. (There are only **124** IMs in India; IM is the 2nd highest title after Grandmaster)
- FIDE Elo **2399** (Peak)
- Indian National **Top 20** Ranked (Current)

2019

2019

2023

2024

## NATIONAL COACH: Indian Blind Players

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### Official National Coach for Indian Junior Blind

2024

- Personally training and mentoring the Indian National Team of talented visually impaired players: Sanskruti, Sam, John, Rahul V, Tanish, Omkar, Rahul S, and Ashwin, among many others. Prepared Indian contingent for the World Juniors Chess Championship in October 2024.

### Asian Paralympics – HelpChess Foundation

2020–23

- Trained my students Sanskruti Vikas More, Kishan Gangolli, and Aryan Joshi to bronze medals at the Asian Paralympic Games.
- Worked with Sanskruti very rigorously before the tournament. Practiced with Kishan and Aryan through the lockdown.

### Chesscript.AI – An App for the Visually Impaired Chess Community

2024

- Developed Chesscript.AI, an app that converts chess book PDFs into PGN, a useful file format for the visually challenged, allowing them to access chess literature, bridging the gap between sighted and impaired.
- Chessboard (Image) Recognition: Detected chessboard location in PDFs using color disparity; split board into 64 tiles; used TensorFlow Keras API to train convolutional neural network to recognize chess pieces.
- Chessmoves (Text) Recognition: Extracted raw game text using Python; prompt-engineered large language model (Gemini) using manually curated training data to convert extracted markdown into PGN format.

### InVision Chess Academy – Empowering the Visually Impaired

2024

- Founded the InVision Chess Academy to connect visually impaired players with passionate young mentors from around the world.
- Developed algorithm to match mentors to mentees based on their relative chess ratings, location, and time commitment.

## OTHER COACHING EXPERIENCES

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### Unacademy Platform

2020–21

- Hired at 13 as Youngest Ever Educator on the Platform. Collaborated with multiple seniors coaches, including GM Vishy Anand.
- Remunerated (over **\$4000**) for live coaching (for **500+** students) and creation of video lessons for **5000+** viewers.

### Graphy App

2021

- Hired as chess educator and remunerated. Created short videos, clips, chess lessons, and more.

### Conducted Chess Camp in Locality, Bandra, Mumbai.

2023

- Conducted a chess training camp for 10+ children aged 6-14 in my building society.
- Inculcated a love for chess in young children, inspiring several of them to enrol with full-time coaches.

## LEADERSHIP INITIATIVES

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### Student Council – Jaguars Senior House Captain, Dhirubhai Ambani International School.

2023–24

- Awarded highest position in House Council. Led the 300+ Jaguars in 15+ Interhouse Cultural and Sporting Events.

### DAIS Math Olympiad (DAISMO), Dhirubhai Ambani International School.

2024

- Organized the olympiad by curating a list of math problems, developing original problems, and inviting students & schools globally.
- Raised INR 40,000 towards charity at EdYouth NGO. Hosted 80+ participants from around the world.

### School Chess Club – Founder & President, Dhirubhai Ambani International School.

2023–24

- Founded the Club by proposing the idea to the CAS Office, initiating the activity, spreading the word, and gathering interested students.
- President of the Club – conducted weekly training/playing sessions (analyzed games, solved doubts) for 25+ students.

## VOLUNTEERING & COMMUNITY OUTREACH

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### Social Activist for Pali Hill Residents' Association, Pali Hill, Bandra, Mumbai.

2024

- Started a campaign (using my research paper) to raise awareness (primarily among builders) of the rising noise levels in Pali Hill.
- Spoke to different builders, understood their perspectives, and advocated for Pali Hill residents, proposing installation of sound barriers.
- Presented my work to BMC corporator Mrs. Swapna Mhatre for action by a higher authority.

### NGO Group Leader, CAS Fete, Charity Fundraiser, Dhirubhai Ambani International School.

2024

- Raised INR 30,000 through three payment-based games (dizzy soccer, arm-wrestling, 7 bounces). Donated to Aseema Bandra NGO.
- Led my group of 12 students in preparations for the DAIS CAS Fete. Set up a stall at the fete, where we organized the above games.

### Global Perspectives Team Project, Dhirubhai Ambani International School, Mumbai.

2022-23

- Raised awareness on women's safety. Collected 300+ survey responses from school faculty, housekeeping, and students.
- Interviewed self-defense martial-arts professionals. Delivered presentations on safety techniques to grades 8–11.

### Holistic Tutoring at Aseema (NGO), Bandra, Mumbai.

2023–24

- Conducted weekly sessions to teach underprivileged children Math, Science, and English.

### ICU2 Eye Camp, Malad, Mumbai.

2024

- Volunteered for a 7-hour eye-checkup service camp for underprivileged people in Mumbai – for people of all ages, ranging from 5-year-olds to 90-year-olds.

## HOBBIES & PURSUITS

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- **PADI Certified Scuba Diver** – received PADI certification for Open Water Scuba Diving in 2022. Dive time: 500+ min.

2024

- Interhouse **Swimming** Bronze Medal, Dhirubhai Ambani International School.

2024

- Interhouse **Photography** Silver Medal, Dhirubhai Ambani International School.

- Creative **Chef**, **Gym** Enthusiast, **Foosball & Table Tennis** Lover, Recreational **Soccer**, **Technology** Geek, and World Traveler.