

VANIA GOEL

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EDUCATION

Jamnabai Narsee School, Mumbai, India

2024 - 2026

Indian School Certificate, Grade 12;

Vibgyor High School - Goregaon, Mumbai, India

2015 - 2024

Indian Certificate of Secondary Education, Grade 10;

TEST SCORES

SAT Superscore: 1520 (Math: 800, EBRW: 720)

October 2025

ACADEMIC AWARDS AND HONORS

- Secured the highest rank among 267 students in Computer Science and English in Grade 11, with near perfect scores 2024
- Achieved 99.9th Percentile Nationwide in ICSE Grade 10 Board exams among 200K+ candidates, with an aggregate of 98% , and near perfect scores in 4 subjects (99/100) 2024
- Honoured with the CREST Gold Award for excellence in research, with over 70 hours of research 2025
- Finalist in Codethon 1.0 (affiliated with IIT Bombay TechFest), application selected in the top 12 with ~600 participants 2022
- Consistently stood first in the grade in Geography and Computer Science in Grade 9 out of ~120 Students 2023

SCIENCE EMPOWERMENT AND OUTREACH

- **The Museum of Solutions**, Mumbai, India (www.museumofsolutions.in) 2025
The Museum of Solutions (MuSo) is recognized by TIME as one of the World's Greatest Places of 2024, is an innovative children's museum with 50,000+ visitors annually.
Volunteer and Innovator under Mrs. Tanvi Jindal, CEO
 - Engaged with students from diverse age groups and backgrounds to foster curiosity-driven learning in STEM and sustainability, guiding them in understanding the science and mechanics behind the exhibits and machines they used.
 - Developed 3 interactive engineering projects:
 1. *Sun Catcher: Interactive movable solar panel that stores kinetic and solar energy to power a light bulb, letting students experience “capturing” solar energy firsthand*
 2. *Code Cracker: Interactive website integrated with real life buttons to teach basic encryption concepts through hands-on decoding challenges and visually expressing how encryption works*
 3. *Solar Still: Designed a solar still that visually purified water using sunlight, demonstrating renewable energy and sustainability concepts.*
- **STEM Outreach at 6 Factories in Western India** 2025
 - Organized visits for 20 underprivileged young women from a local orphanage to 6 automated factories in India to promote women in engineering fields, and mentored them, inspiring them to pursue STEM careers; Exposed them to real-world engineering
 - Conducted a project on sustainability, manufacturing, and quality control of these factories to showcase eco-friendly engineering practices
- **Student Advisor**, Vibgyor High School 2022 - 2024
Chosen to counsel 200+ 8th grade students and their parents, providing guidance and orientations to promote enrollment in the science stream
- **Founder, Hackshield**, a platform to teach ethical hacking 2025
Created and published 10+ videos teaching ethical hacking, with plans to publish content on Anytime Anywhere School to educate students of all backgrounds in cybersecurity and digital safety

STEM EXPERIENCES AND RESEARCH

Innovation

- **Real-Time Bharatanatyam Posture Classification With Deep Learning & Pose Skillset Estimation Using Mediapipe** 2024
 - Developed an AI model that mimics a bharatanatyam teacher to provide real-time posture feedback and identifies the position, aiming to preserve the classical dance form of Bharatanatyam and make it accessible to students of all backgrounds globally
 - Accepted and Presented at the ACMESGA 2k24 Conference
 - Published in the Springer Journal of The Institution of Engineers (India)
 - Won the CREST Gold award
- **Guitar Based Vibrotherapy Device for Children with Autism Spectrum Disorder** 2025
 - Designed and tested a vibrotherapy system using guitar vibrations with students at NGOs across Mumbai; findings submitted to IRIS National Fair, aiming to improve therapy outcomes for children with autism
 - Accepted, presented and published at IEEE ICECST 2025.

Research

- **Indian Institute of Technology, Bombay** 2023
Summer Intern under Operations Research PhD Student, Dhawal Thakkar
Quantitative Analysis: worked on predicting and fixing client issues using quantitative models; **produced 4 weekly AI-assisted research reports** documenting progress and insights

- **Thermodynamic and Heat Transfer Analysis of Solar Stills for Enhanced Energy Efficiency, JNS** 2024
Researched the thermodynamic and heat transfer principles underlying solar stills, analyzing models and mechanisms that influence energy efficiency and water yield.
- **Surface Chemistry and Material Optimization in Solar Stills for Improved Distillation Performance, JNS** 2024
Explored the surface chemistry and material properties influencing solar still performance, studying how chemical composition and coating materials affect distillation efficiency.
- **Molecular Mechanisms and Material Optimization in Thermogenic Compounds for Controlled Heat Generation, JNS** 2025
Investigated molecular mechanisms and material properties of thermogenic compounds, studying how composition and structure influence controlled heat generation.
- **Magnetic Field Dynamics and Their Applications in MRI Signal Processing and Image Reconstruction, JNS** 2025
Researched the principles of magnetic field generation and manipulation in MRI systems, analyzing how field strength and uniformity affect image quality and signal processing efficiency.

Robotics

- **FIRST Tech Challenge 2026, Participant** 2026
Preparing to compete in FTC for the decode challenge 2026, showcasing innovation and technical skills

Internships

- **Google, San Francisco, United States of America** 2023
Shadow Intern under Senior Manager Rahul Goel
Developed a website from scratch and contributed to natural language processing projects, gaining hands-on experience in web development and NLP
- **Avendus Spark, Mumbai, India (www.avendus.com)** 2023
As the Institutional Enquiries Franchise of India's largest investment bank by revenue, it is ranked #1 in the country across local and global brokerage houses. It is home to a 100 member team, catering to over 400 institutional clients.
Intern Under Mr. Harikesh Venkatachalam, Managing Director
Worked on deep data analytics projects for 1 month at India's largest bank by revenue, gaining hands-on experience in financial data modeling and analysis.

COMMUNITY ENGAGEMENT AND EMPOWERMENT

- **Founder and Developer, Just 5 More Minutes** 2024 - 2025
– Designed to make phone usage productive with Study, Task, and Bored modes and implementation of Artificial Intelligence; impacted 3,500+ students across 22 schools in 7 countries
– Built an application using community programming and published it on Google Play

LEADERSHIP

- **Website Manager, Vibgyor High School** 2022 - 2024
Led and uploaded content collection from 800+ students, publishing art, stories, and projects to showcase their voices; maintained, updated, and troubleshooted all aspects of the school website.
- **Group Leader, Europe Meets India Program, JNS** 2024 - 2025
Led the team, designed and managed the group's website, oversaw content upload and organization, and allocated tasks to teammates
- **Leader and Drummer, JNS Band** 2024 - 2025
Managed song selection and resource allocation; performed as the leader and drummer of the band and won the Quintessence 2025 Gold Medal
- **Administration Team, Annual World Summit, Model United Nations at JNS** 2025
Programmed and developed website; designed promotional banners, managed account tallies, and oversaw registration processes

EXTRA-CURRICULAR ACTIVITIES

- **Bharatanatyam Dancer** – 12 years of training since age 5; earned Nritya Visharad (Bachelor's-level certification) with A+ in final exam; performed at multiple prominent venues across Mumbai.
- **Multi-Instrumentalist** – 5 years of drums (Trinity College London Grade 7), 7 years of piano, 3 years of guitar; adept at performing and collaborating across musical styles.
- **Handball Player** – 4 years of competitive play; secured 6 golds, 2 silvers, and 1 bronze in district-level tournaments; contributed to team strategy and performance.
- **Social Service Club Member** – Completed 43+ hours of community service; awarded Perfect Attendance; selected to teach hygiene and assist with daily activities in Walwanda village.
- **Finance Club Member, JNAA Cascade** – Played a key role in India's largest interschool finance festival, gaining hands-on experience in financial planning, budgeting, and event management.

SKILLS

Java, Python, Javascript, Dart, HTML, CSS; Microsoft Excel; Ethical Hacking

INTERESTS

Music, Robotics, AI & Technology, STEM Education, Reading, Movies