KEEGAN CRASTO
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EDUCATION

R. N. Podar School, Mumbai, India. 2024-Present
CBSE Board Examination, Grade 12 (Ongoing) 2025-Present
Lilavatibai Podar High School, Mumbai, India. 2014-2024
ICSE Board Examination, Grade 10 2023-2024

STANDARDIZED TESTS AND APs

- **SAT Score: Total** - 1470 ; Math - 770; English - 700 2025
- **AP Computer Science A** Score: 5. 2025
- **TOEFL iBT:** Total 110 (Reading 26, Listening 30, Speaking 25, Writing 29) 2025

AWARDS AND HONORS

- Certificate of Merit in Computer Science, ICSE Grade 10 Board Exam for scoring 100/100 2024
- Gold CREST Award (British Science Association) awarded for innovative STEM research 2025
- Gold Medal (1st Place) and Robot Design Award – World Robot Olympiad (WRO) Nationals 2024
- Rookie All-Star Award – FIRST Robotics Championship World, Houston 2024
- Rookie All-Star, Engineering Excellence and Finalist Alliance Captain Awards – FIRST Robotics Championship Regionals, Türkiye 2024
- Judges Choice Community Impact Award – FIRST Tech Challenge, Sydney 2023
- Connect Award – FIRST Tech Challenge Nationals, India 2023

ROBOTICS EXPERIENCE AND INNOVATION

- **IRIS National Science Fair:** Invented "Vision Guardian," a low-cost optical device enabling early detection of retinal diseases and improving vision accessibility in rural areas, empowering underprivileged communities through affordable eye-care technology 2025
- **Autonomous AI-Powered Line-Following Gardenbot** 2024
  -Developed an AI-vision line-following robot with Arduino Mega 2560 and HuskyLens for precise navigation and efficient, plant-specific irrigation.
  -Implemented a PCB to optimize power distribution and ensure reliable multi-system integration.
- **Autonomous Garden Junkbot** 2022
  -Developed an autonomous garden robot with Arduino Mega 2560, ultrasonic sensor, and motor drivers for obstacle avoidance and automated irrigation
  -Integrated SIM800L GSM module to enable automated SMS/call alerts for snake detection.
- **World Robot Olympiad Robot** 2024
  -Developed a LEGO Mindstorms EV3 robot with active intake/outtake systems, dual-motor drive, and custom rear press mechanism for efficient block handling and debris deposition.
  -Implemented ultrasonic wall-following and dual-color sensor line-following for precise field navigation.
- **FIRST Robotics Competition Robot** 2024
  -Co-developed a robot with swerve drive, RoboRIO control, custom CAD, and mechanical assembly.
  -Programmed Java/OpenCVcore functions with Limelight vision tracking, driver testing, and troubleshooting
- **FIRST Tech Challenge Robot** 2023
  -Co-developed a robot with GoBilda chassis, linear slide, custom 3D-printed mechanisms, supporting CAD assembly and programmed Java autonomous/tele-op with dead wheels, encoders, IMU,TensorFlow vision.
- **World Robot Olympiad Robot** 2022
  -Built a LEGO EV3 robot with dual claws, water-block deployer, and barrier-clearing chassis.
  -Programmed ultrasonic + color sensor navigation for element classification and block placement.

TECHNOLOGY AND AI PURSUITS

Research:

Independent AI Research Fellowship - Built a hybrid rollout framework in Panda Gym that uses a Multilayer Perceptron to partially replace physics simulation, improving reinforcement learning speed while maintaining accuracy. [Accepted and currently under peer review at the National High School Journal of Science (NHSJS), Nov '25.] 2025

A Novel Low-Cost and Portable Device for the Early Detection of Diseases in the Retina 2025
Authored a research paper on a low-cost AI-powered retinal imaging system using Raspberry Pi and EfficientNet, enabling OCT-level diagnostics for eye diseases at 1% of conventional cost.
Accepted for publication in Curieux Academic Journal (Feb 2026, forthcoming issue)

Leadership and Internship:

- Head of Technology – Podar Summit Model United Nations (MUN): 2025
  Independently designed and built the official website, managed AV/technical operations.
- Head of Technology – Internship - Prudencia Model United Nations (MUN): 2025-2026
  Leading technical operations, website development, and delegate registration system.
- CEO of Technology-Yuvana: Leading technology operations for inter-school fest. 2025

Courses, Workshops and Summer Programs:

- National University of Singapore -SISC 2025 Summer Camp: Science and Technology program. 2025
- MITx Introduction to Computer Science & Programming with Python:Finals-98%, 3credits (GPA 4.0). 2021
- Harvard University – CS50's Introduction to Artificial Intelligence with Python 2025
- Hindustan Times Codeathon – Website Development with HTML 2020
- WhiteHat Jr – Certified Game Developer: recognized for exceptional skills in game development. 2021

Competitions:

- 1st Place at RoboG Inter-school Competition - Autonomous AI-Powered Line-Following Gardenbot 2024
- SOF National Cyber Olympiad: Secured 2nd Rank in school. 2021
- Google Code to Learn India Contest- Developed a game "The Takeover" in SCRATCH. 2021
- Hoonar Talent Hunt: Developed a game in p5.js: secured 4th place in school and 11th in Mumbai. 2021

Skills:

- Programming & Game Development: Python, C++, Java
- Robotics: Hardware design, Autonomous navigation, AI integration
- Web Development: HTML, CSS, JavaScript

COMMUNITY OUTREACH

Church Outreach:

Smiles & Skills – Parish Outreach for Children with Special Needs, Holy Cross Church (Kurla). 2025

- Initiated, conceptualized, and led a parish outreach for NASEOH, setting up stalls in church premises to showcase handmade creations by children with special needs.
- Created a platform where children's skills were recognized, building their confidence, pride, and joy.
- Supported livelihood opportunities as parishioners purchased their products, fostering dignity, self-reliance, and long-term community inclusion.

Tech Future Bloom -Robotics Outreach for Juvenile inmates, in collaboration with 2025
Prison Ministry Mumbai (Fr. Glasten Gonsalves)-Dongri Remand Home

- Initiated, conceptualized, and led a robotics outreach program for juvenile inmates, fostering innovation and skills-based learning.
- Conducted interactive sessions with live demos, presentations, and team-based robot-building challenges using DIY kits.
- Encouraged curiosity, confidence, and teamwork, while opening pathways to future careers through hands-on exposure to technology.

FRC Outreach (Team Sigma #9692): 2024

- Introduced robotics to underserved schools and engaged 17,000+ students, parents, and community members through labs, fairs, and outreach events.

FTC Outreach (Team Vortex #22920): 2023

- Mentored 200+students, set up 3 school robotics labs, and led inclusive sessions for differently-able learners.
- Showcased and promoted robotics at major STEM events, reaching 28,000+ attendees across expos and academic platforms.

SPORTS ACHIEVEMENTS

- 1st Place – Dodge Ball, *Athletica* (Podar High School, Mumbai) 2017
- 2nd Place – Step Up Challenge, Virtual Sports Day (Podar High School, Mumbai) 2021
- 2nd Place – 400m Relay Race, Sports Meet (Podar High School, Mumbai) 2024
- Member – School Football Team 2017-2022
- Played for Football Clubs: Kenkre, Dsouza Football Academy, Soccer Learners Club 2017-2019
- Awarded *Best Player of the Tournament* – Soccer Learners Club 2017

MUSIC ACHIEVEMENTS

- Member – School Music Band, performed at Annual Day Function 2022
- Piano – Grade 3, Trinity College London, Score: 92/100 2019
- Piano – Grade 1, Trinity College London, Score: 100/100, Distinction 2018

INTERESTS

- Football (Premier League & La Liga), Music, Formula 1.