### Vivyan Kumar

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#### **Education**

# Delhi Public School International, Saket

Cambridge International Curriculum

- A Levels (2025–Present): Mathematics, Further Mathematics, Physics, Chemistry, Psychology, English (AS)
- **AS Levels (2024–2025): 5A, 1B** Mathematics (84), Further Mathematics (80), Physics (86), Chemistry (83), Economics (73), Psychology (87)
- IGCSE (2022–2024): 6A\*, 1A First Language English (85), Mathematics (95), Additional Mathematics (99), Physics (94), Chemistry (96), Computer Science (93), French (96)

### **Academic Achievements**

# **Standardized Testing**

- SAT: 1570 (800 Mathematics, 770 Reading and Writing)
- TOEFL: 115 (29 Reading, 29 Listening, 29 Speaking, 28 Writing)
- **IELTS:** 8 (9 Listening, 8.5 Reading, 7.5 Speaking, 7 Writing)
- AP Exams:
  - o Calculus BC: 5 | Chemistry: 5 | Computer Science A: 5
  - o Physics 1: 5 | Physics 2: 5 | Physics C (Mechanics): 4
- AP Scholar with Distinction

# **Mathematics & Science Competitions**

- University of Waterloo Math Contests
  - o Avogadro: Top 500 globally, 1st in school
  - o Certificates of Distinction: Pascal (2023), Cayley , Galois, Fermat, CIMC, CSMC
  - o School Champion Medal CIMC (2023), CSMC (2024), Galois (2024), Cayley (2024), Fermat (2025)
  - o International Honour Roll for Waterloo Mathematics Exams: CIMC (2023), CSMC (2024), Galois (2024), Fermat (2025)

# • Science Olympiad Foundation (SOF)

- o IEO: Zonal Excellence (Zonal Rank 17) & Distinction Certificates
- o NCO: Zonal Excellence (Zonal Rank 12) & Distinction Certificates
- o NSO, IMO: Gold Medals of Excellence

#### **School Awards**

- Multiple Scholar Badges: 2022, 2023, 2024
- Academic Proficiency Awards: Additional Mathematics (2022, 2023), Mathematics (2022), Physics (2022, 2023), Chemistry (2022, 2023), French (2023)

# **Other Recognitions**

- Green Olympiad: Certificate of Merit
- **DELF A1 Diploma:** French Language Certification
- Immerse Essay Competition: 20% Scholarship
  - o I wrote an essay on the topic "What makes a great game?", writing about the subjectivity of the definition of a great game and analysing some common traits among hit games.

# **Leadership & Engagement**

## SYNTAX - DPSI Tech Club

- Vice Head, Hackathon (2024–2025)
  - o I helped organize the intra-school and inter-school SYNTAX competitions relating to Hackathon, the topic for which was to code a bot to play the board game Othello.
- Head, Hackathon (2025–Present)
  - o I designed, organized, and managed the inter-school SYNTAX day competition for Hackathon, pioneering the school's first ever Game Jam as the topic for the year, with submissions from 10 different schools and a total of 38 students.

# Domus Scientia - DPSI Science Club

- Core Team Member (2025–Present)
  - o One of the leading members of Domus Scientia, I collaborated with the rest of the team to organize an intra-school scientific quiz for all science students from grades 6 to 11, as well as an intra-school scientific debate competition including all 6 houses with the entire school as an audience.

## **Research Experience**

# **Research Paper**

Under the guidance of Mr. Vishal Gupta, I've written a research paper (accepted for publication in Lex Localis *ISSN:1581-5374E-ISSN:1855-363X*) on the topic *Imitation Learning In Games: Teaching AI Through Mimicking Expert Human Players*. In this paper, I researched methods of teaching AI human-like behaviours, with methods such as Behavioural Cloning, Inverse Reinforcement Learning and Generative Adversarial Imitation Learning. I looked at these methods under the lens of video games, writing about

how these methods can be used to create more challenging AI bots for the player to play against, as well as improving NPC behaviour to increase immersion in the game's fictional world.

#### **Extracurricular Activities**

### **Indian Classical Music (Flute)**

• Third Year Diploma with First Division Distinction across all years, Prayag Sangeet Samiti (2018–2023)

# **Public Speaking & Competitions**

- 2nd Place Think Summit (Confabulation), 2024
  - o Placed 2nd among 16 schools in Think Summit: a group discussion/debate competition, showcasing knowledge of current affairs and strong research ability
- Finalist Schoolathon on Sustainability 2023
  - o Made it to the final round (one of 12 schools from 150 participating) in the Schoolathon on Sustainability; a pitch competition about developing business solutions focusing on the 17 SDGs of the United Nations
- Participant Chemical Convergence, DPS Dwarka Annual Fest 2023
  - o Participant in Chemical Convergence, a chemistry quiz-style event.
- 1st Place Real Estate Warriors Competition, DPSI Commerce Collective 2023
  - o 1st place in the intra-school Real Estate Warriors Competition hosted by Commerce Collective, an economics based investment competition.

## Volunteering

- COVID-19 Vaccination Camp, Sarvodaya Bal Vidyalaya (2021)
  - o I worked in a COVID vaccination camp for six days on a voluntary basis, educating a total of 120 patients on the COVID safety protocols to be followed, guiding patients to the respective rooms, and helping alleviate their stress and anxieties surrounding vaccination.

# **Social Venture**

- I started a <u>YouTube channel</u> about teaching mathematics (and later other subjects) in a fun and interesting way, using examples from video games that many children will find relatable.
  - o Currently, 34 subscribers, 1 video and 596 views.

#### **Internship Experience**

- Pickl.AI by TransOrg Analytics (Summer 2025) www.pickl.ai
  - o Completed training in data science, AI, and machine learning
  - o Analyzed GPA predictors using ML models

#### **Skills**

- Languages: English (Fluent), Hindi (Fluent), French (Intermediate)
- **Tools & Tech:** Microsoft Office, Visual Studio Code, Video Editing Software, Proficient in Python, Basic Knowledge of Java
- Other Interests:
  - o Speedcubing (Advanced)
    - Solved 2x2 through 7x7, pyraminx, skewb, and megaminx, showcasing spatial visualization abilities and knowledge of cubing algorithms.
      - Average solve times (in competition) can be found <u>here</u>
        - 2x2: 4.11 seconds
        - 3x3: 15.07 seconds, 38.48 (one handed)
        - 4x4: 1 minute 22.14 seconds
        - Pyraminx: 8.77 seconds
        - Skewb: 9.24 seconds
      - Unofficial solve times:
        - 5x5: ~4 minutes
        - 6x6: ~10 minutes
        - 7x7: ~20 minutes
        - Megaminx: ~7 minutes
  - o Swimming
  - o Badminton
  - o Computer Gaming

### References

## Ms. Upasana Kinra

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