

Sarthak Vijay

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Education

Indian Institute of Technology, Gandhinagar, MSc Mathematics Aug 2022 - Mar 2024

- **CPI:** 9.39/10.00
- **Selected coursework:** Real Analysis, Complex Analysis, Functional Analysis, Commutative Algebra, Algebraic Topology, Algebra (I and II)

St. Stephen's College, University of Delhi, BSc (H) Physics Aug 2018 – Mar 2021

- **CGPA:** 9.04/10.00
- **Selected coursework:** Mechanics, Statistical Mechanics, Solid State Physics, Quantum Mechanics and Applications, Mathematical Physics (I, II and III), Advanced Mathematical Physics (I and II)

Workshops and Seminars

CIMPA Workshop in Linear Preserver Problems Jul 2024
IISER Bhopal, India

CatCafé (Organizer) Sep - Nov 2023
IIT Gandhinagar, India

- Weekend lectures on introductory category theory by Prof Sanjay Amrutiya of IIT Gandhinagar's Math Dept.
- Maintained logistics, and a Zulip channel to gel interactions between the speaker and the attendees.

Summer Programme in Mathematics Jun – Jul 2023
Harish-Chandra Research Institute, India

- Got introduced to measure theory and algebraic topology.

Undergraduate Theoretical Physics Summer Program May – Jun 2020
Perimeter Institute, Canada

- Was conducted online due to COVID.
- Studied Lagrangian and Hamiltonian mechanics, Noether's theorem, symmetries, 2-d Ising model.

National Initiative on Undergraduate Science (Physics) Camp Jun 2019
Homi Bhabha Centre for Science Education, India

Presentations

The Moore-Aronszajn Theorem Apr 2024
Master's project under Prof Gadadhar Misra, IIT Gandhinagar, India

Van Kampen's Theorem in Categorical Language Nov 2023
Algebraic Topology class, IIT Gandhinagar, India

An Error in Halmos' Naïve Set Theory Sep 2022
Topology class, IIT Gandhinagar, India

A Proof of the Crystallographic Restriction Theorem Sep 2020
Feynman Club, St. Stehphen's College, India

Not Just a Siphon: Mould Effect Jan 2019
Meera Memorial Paper Presentation, St. Stehphen's College, India

Scholarships and Awards

Institute Gold Medal in Mathematics (Master's) Jun 2024
IIT Gandhinagar

INSPIRE's Scholarship for Higher Education (Bachelor's) Aug 2018 - Mar 2021
Awarded by the Government of India

Miscellaneous

Some test results:

- GRE Math Subject Test (Oct 2024): 870 scaled score, 88 percentile
- IELTS (Dec 2023): 7.5 overall band score

A passion for organizing math as I learn

- Have been maintaining \LaTeX logs of all results that get covered in the various courses, or I have learnt independently, neatly and linearly.
- Some of these are hosted on my [website](#).
- Also maintain errata of the texts that I read.

Other relevant skills: \LaTeX , Mathematica, Python, some rudimentary webdev