ARNAV METRANI

PHYSICS UNDERGRADUATE

ABOUT ME

I'm a 3rd year Physics Undergraduate at IISER-Mohali. I'm currently exploring Relativity and QM, and would like to explore other fields as well.

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EDUCATION

Campion School (2019)

- **10th Grade, ICSE**

PACE Junior Science College (2019-2021)

- **11th and 12th, HSC Board**

Indian Institute of Science Education and Research, Mohali (2021-)

- **Integrated M.Sc. in Physics (ongoing)**

EXTRACURRICULARS

- Co-convener of IISER Mohali's Physics Club
- Member of citizen research organization Zooniverse
- Participated in NASA GLOBE CLOUD CHALLENGE 2022 with CLOUD GAZE
- Blog on STEM related topics

PROJECTS, PUBLICATIONS AND TALKS

Summer Project: Introduction to Special Relativity and Analysis

Dr. Jasjeet Singh Bagla, IISER-Mohali (Online)

Project comprised of Lorentz transforms, Minkowski geometry analysis, paradoxes, four-vector formulation, analysis of accelerating frames including Rindler frames, electrodynamic effects and optical effects.

Summer Project: Introduction to Quantum Algorithms and Quantum Error Correction

Dr. Kuntal Roy, IISER-Bhopal (Online)

Project comprised of basic theory of Quantum Computing and studying various aspects such as various Quantum Algorithms, Quantum Error Correction Algorithms, and applications of Quantum Fourier Transform.
Project included writing and executing the above quantum circuits on IBM-Q (through Qiskit).

Talk: (Extended) Introduction to Quantum Algorithms

Presented a talk on behalf of the Physics and Computer club in the campus. Talk covered the current landscape of QC and current shortcomings, as well as explanation of a few algorithms.

COURSES UNDERTAKEN

Physics: Introduction to Mechanics, Introduction to Electromagnetism, Waves and Optics, Thermodynamics

Mathematics: Introduction to Group Theory, Real Analysis in One variable, Introduction to Differential Geometry, Introduction to Differential Equations, Probability Theory, Theory of Computation