



AYUSH MOHAPATRA

Physics Student

About Me

A passionate physics student with strong interests in quantum optics, high-energy physics, and nanostructures. Currently focused on theoretical modeling of quantum systems, including optical squeezing and effective Hamiltonian approaches, with an inclination toward applications in quantum information and integrated photonics.



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NISER, Bhubaneswar

Language

- English
- Hindi
- Odia

Expertise

- Creativity
- Python Programming
- Scientific Communication
- Problem-Solving
- Critical Thinking

Experience

**National Institute of Science Education and Research
Bhubaneswar - India**
2023 - Present

General Physics Lab, optics lab, Advanced Electronics Lab, Solid State lab & Nuclear lab courses in NISER till 3rd Year. Courses covered till the 3rd year: Classical Mechanics, Quantum Mechanics, Linear Optics, Mathematical Methods of Physics, Electrodynamics, Statistical Mechanics, Special Theory of Relativity, Condensed Matter Physics & Nuclear and Particle Physics.

IIT Bhubaneswar (Summer Internship 2024)

I completed my internship on "Advancements in Quantum Well Structures: Exploring V-shaped Double Quantum Wells" under the guidance of Dr. Satchidananda Rath.

IIT Kharagpur (Research Project 2025)

I worked on intracavity optical squeezing in coupled microring resonators, focusing on nonlinear interactions and achieving squeezing beyond the conventional 3 dB limit under the guidance of Dr. Shailendra K. Varshney.

Education

Mother's Public School, Bhubaneswar

Class - 10th and 12th
2019 - 2023

**National Institute of Science Education and Research,
Bhubaneswar**

3rd Year Integrated MSc. Student, School of Physical Sciences
2023 - Present

Achievements

- CGPA - 8.10
- CBSE Class 10 percentage - 98.2%
- CBSE Class 12 percentage - 95.8%
- Secured AIR 263 in NEST 2023

Fellowship

Innovation in Science Pursuit for Inspired Research (INSPIRE) SCHOLARSHIP, Department of Science And Technology