

SUMMARY

Physics Int MSc student, focused on rigour; eager to apply knowledge and skills gained through coursework and extracurricular activities to an internship or project. Committed to continuous learning.

RESEARCH INTERESTS

Mathematical Physics, Quantum Foundations, Manifolds

EXPERIENCE

Internships

- Methods in Classical and Quantum Mechanics
Guide: Sujay K. Ashok, Theoretical Physics, IMSc May 2024 - Present
Canonical transformations in Hamiltonian mechanics; symplectic transformations; Poisson bracket formulation; path integral formalism in QM; resolvent, green's function and quantum scattering; a rigorous approach to the WKB method.
- Linear Dynamical Systems
Guide: Anupam Pal Choudhury, SMS, NISER Summer 2023
An initial but rigorous foray into linear dynamical systems and bifurcations.
- Non-Linear Dynamics and Chaos
Guide: Sayantani Bhattacharya, SPS, NISER Summer 2023
Bifurcations, hysteresis and other phenomenons in 2-D systems, rudimentary analysis of higher dimensional non-linear systems. Numerical analysis of the parameter space of the Lorenz Equations.

PROJECTS

- Defining a Metric on the Set of Images
A homework project for my metric spaces course.
- Percolation; Random Walks and Diffusion
A project for my numerical methods course.

SKILLS

- **Programming Languages:**

- Python
- Rust

- **Softwares:**

- Git
- Linux
- L^AT_EX

- **Extra Courses (self-studied):**

- Point-set Topology
- Group theory (currently studying)

EDUCATION

National Institute of Science Education and Research, Bhubaneswar, Odisha, India

Integrated MSc

2022–Current

- Currently in fifth semester
- CGPA: 9.44

Chavara Public School

Kottayam, Kerala, India

CBSE Class XII

2022

- 96.4% with Physics, Mathematics, Computer Science, Chemistry

St. Jude's Global School

Kottayam, Kerala, India

CBSE Class X

2020

- 96.6%

EXTRACURRICULAR ACTIVITIES

- Former Core Committee Member of Physics Club, NISER (2023–24)
- Core Committee Member of Coding Club, NISER (2023–Present)
- Head of Chess Club, NISER (2024–Present)
FIDE rating of 1470.
- Piano
Merit in Grade 5 Exam, Trinity School of Music, London.
- GM of a Dungeons & Dragons Campaign. (Currently on hold because of our hectic semesters.)

SCHOLARSHIPS AND AWARDS

- Innovation in Science Pursuit for Inspired Research (**INSPIRE**)
Scholarship issued by Department of Science and Technology - Government of India 2022–Current
- Batch-22 Topper for first semester, NISER