
Aryan Bhatia

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<https://aryanbhatia.xyz/index.html>

<https://github.com/idontknow700>

Education

- Ongoing : 5th year of BS-MS program, Indian Institute of Science Education and Research (IISER) TVM (CGPA: 8.21/10.0)
- Delhi Public School (DPS), Bhopal
 - 12th Board Exam (CBSE) - 96 % (2021)
 - 10th Board Exam (CBSE) - 94.4 % (2019)

Research and Internship Experience

- Research Intern, *Dr. Suraj S Hegde, Physics*, IISER TVM (01/25 - Ongoing)
 - Studying topological quantum field theory with special focus on Chern-Simons Theory and began exploring Chern-Simons Gravity.
- Research Intern, *Dr. Soumen Basak, Physics*, IISER TVM (11/24 - 02/25)
 - Studied Numerical Relativity using the 3+1 formalism. Also studied the ADM formulation
- Summer Research Intern, *Dr Srijit Bhattacharjee, Physics*, IIIT ALLAHABAD (5/23 - 7/23)
 - Undertook an in-depth study of special relativity at an intermediate level and gained a foundational understanding of general relativity at an introductory level.
 - Made visually appealing explanation of the Lorentz transformation using the python based animation engine Manim (<https://aryanbhatia.xyz/animations.html>)
 - Wrote a report on the explanation of Twin Paradox in the traditional way and a non-conventional way using the equivalence principle.
- Research Intern, *Dr Nagaiah Chamakuri, Mathematics*, IISER TVM (8/22 - 11/22)
 - Assisted in the development of numerical solutions for partial differential equations using *DUNE* (<https://www.dune-project.org>)
 - Learned advanced C++ techniques such as Template Meta-Programming during an internship to optimize performance-critical sections of code.

Skills

- **Programming Languages:**
 - Proficient in Python programming language with experience in developing and implementing algorithms for data analysis and numerical computation.

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- Intermediate knowledge of Mathematica.
 - Intermediate understanding of C++ programming language, including object-oriented programming concepts and standard library usage
 - Intermediate knowledge of LaTeX for document typesetting and formatting
- **Design Software:** Proficient in using design software such as Adobe Illustrator, After Effects, and Photoshop.

Relevant Courses

- Quantum Field Theory 1
- Quantum Many Body Theory
- Adv Statistical Mechanics
- General Relativity
- Quantum Mechanics 2
- Quantum Field Theory 2 (audited)
- QIT
- General Topology

All courses taken by me can be seen ([here](#))

Organisation & Leadership

- Science and Technology Representative in the Student Council, Indian Institute of Science Education and Research (9/24 - ongoing)
- Founder, Coding Club, Indian Institute of Science Education and Research (05/22 - ongoing)
- President, Club of Mathematics (CMIT), Indian Institute of Science Education and Research (12/23 - 8/24)
 - Organized and facilitated outreach programs and workshops such as [IINMM](#) as the president of the club.
- Director, (c)ypher Tech Club, Delhi Public School (DPS), Bhopal (8/20 - 11/21)
 - Organized and hosted an international tech event with 2000+ participants, managing logistics, budgeting, and communication with participants and vendors.

Awards and Honors

- Received first prize in mathematics for *Picturing with parametric equations* project at the annual science fest of IISER TVM *Anvesha* where we used an oscilloscope to visualise sound. (11/23)
- Received runner-up award in physics for *Ion Trap* project at the annual science fest of IISER TVM *Anvesha* with guidance from Dr. Umesh R. Kadhane of the Indian Institute of Space Science and Technology. (11/22)
- Cleared GATE-2024 (A Graduate Aptitude Test)