Aryan Bhatia

aryanbhatia21@iisertvm.ac.in
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: 8.19/10.0)
- Delhi Public School (DPS), Bhopal
  - 12th Board Exam (CBSE) - 96 % (*2021*)
  - 10th Board Exam (CBSE) - 94.4 % (*2019*)

Research Experience & Workshops

- VDSP Academy 2025: *Symmetries, Particles and Fields*, University of Vienna *(07/25)*
  - Organized by the Vienna Doctoral School in Physics and the Erwin Schrödinger Institute for Mathematics and Physics.
  - Selected as one of 20 international participants.
  - Among the 10 participants who were awarded funding support.
  - Attained the second highest grade in the program evaluation.
- 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)*
  - Learned advanced C++ techniques such as Template Meta-Programming during an internship of numerical solutions for partial differential equation.

Skills

- **Programming Languages:**
  - 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

Relevant Courses

- Quantum Phases of Matter
- Quantum Field Theory 1
- Quantum Many Body Theory
- Adv. Statistical Mechanics
- General Relativity
- Quantum Field Theory 2 (audited)
- General Topology
- Analysis on Manifolds

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 - 9/25)*
- 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)