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# Aryan Bhatia

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<https://idontknow700.github.io/mywebsite/index.html>

<https://github.com/idontknow700>

## Education

- Ongoing : 4th year of BS-MS program, Indian Institute of Science Education and Research (IISER) TVM (CGPA: 8.20/10.0)
- 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. Soumen Basak, Physics*, IISER TVM (10/24 - Ongoing)
  - Studying Numerical Relativity using the 3+1 formalism.
- 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://idontknow700.github.io/mywebsite/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 skilled in using popular Python libraries such as *NumPy*, *Pandas*, and *SciPy*.
  - Intermediate understanding of C++ programming language, including object-oriented programming concepts and standard library usage

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– 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

- Adv Statistical Mechanics (ongoing)
- General Relativity (ongoing)
- Quantum Mechanics 2 (ongoing)
- Quantum Field Theory 2 (ongoing) (auditing)
- ED and STR
- QIT
- General Topology
- Classical Mechanics

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 (IISER) (*9/24 - ongoing*)  
Assisted in the organization of *Anvesha*, the annual science fest of IISER TVM
- President, Club of Mathematics (CMIT), Indian Institute of Science Education and Research (IISER) (*12/23 - 8/24*)
  - Organized and facilitated outreach programs and workshops such as IINMM as the president of the club.
  - Head of Website (*5/22 - 2/24*) - Design and maintain the club website (<https://cmit.iisertvm.ac.in>)
- 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*)
- Was among the top  $\sim 1500$  candidates selected for NAEST (National Anveshika Experimental Skill Test) out of 11403 students.