Aryan Bhatia

aryanbhatia21@iisertvm.ac.in
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: 8.21/10.0)
- 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 Supergravity.
- Research Intern, *Dr. Soumen Basak*, *Physics*, IISER TVM *(11/24 - 02/25)*
  - Studied 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
  - 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

- QFT 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 (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*)
- Cleared GATE-2024 (A Graduate Aptitude Test)