

# Ayush Singh

School of Physical Sciences  
National Institute of Science Education and Research, Bhubaneswar

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## Education

- **National Institute of Science Education and Research** Bhubaneswar, OD  
*Integrated Masters', (Current CGPA: 8.88)* July 2017 – May 2022
  - Relevant Coursework
    - \* Physics: Classical Mechanics, Electromagnetism, Quantum Mechanics, Electronics
    - \* Computer Science: Theory of Computation, Algorithms and Data Structures, Graph Theory
    - \* Mathematics: Real Analysis
- **Delhi Public School International** Ghaziabad, UP  
*All India Senior Secondary Certificate Examination, (with 94.6% aggregate)* May 2017
  - Subjects taken: Mathematics, Physics, Chemistry, Economics, English
- **Delhi Public School International** Ghaziabad, UP  
*All India Secondary School Examination, (with 10 CGPA)* May 2015
  - Subjects taken: English, Hindi, Mathematics, Science, Social Sciences

## Academic Experience

- **National Initiative on Undergraduate Science** Mumbai, MH  
*Homi Bhabha Center for Science Education, TIFR* June 2018
  - Series of lectures on Quantum Mechanics, Quantum Information and Quantum Computation, Astronomy and Astrophysics, Many Body Physics.
  - About 30 hours of independent lab work.
- **One Day RAD@Home Astronomy Workshop** Bhubaneswar, OD  
*National Institute of Science Education and Research* September 2018
  - Hands on training in extracting scientific meaning from multi wavelength sky survey images of galaxies.
- **Summer Reading Project on Lie groups and Lie algebras** Mumbai, MH  
*Indian Institute of Technology Bombay* May 2019 – July 2019
  - Project guide: Dr. Sanjoy Pusti, Department of Mathematics, IIT Bombay
  - Topics covered: Metric topology, topological groups, Lie algebras, Baker-Campbell formula, representation theory, Peter-Weyl theorem

## Student Projects

- **Coding Club** Bhubaneswar, OD  
*National Institute of Science Education and Research*
  - Helped organize an introductory series of student seminars on algorithms.
  - Gave a student seminar on *Divide and Conquer algorithms*.

- **MathematiX Club** Bhubaneswar, OD  
*National Institute of Science Education and Research*
  - Gave a student seminar on *2-adic Numbers*.
  - Conducted a MathToys toy-making session on *Klien bottles*.
- **Software Development Group** Bhubaneswar, OD  
*National Institute of Science Education and Research*
  - Have been one of the founding members of the Software Development Section of the institute.
  - Familiar with web technologies – able to work with the frontend (HTML, CSS, vanilla JavaScript) as well as the backend (SQL, Django).

## Skills

**Programming Languages:** Proficiency in C/C++, Python, R, JavaScript, Bash scripting.

**Operating Systems:** Linux (Arch Linux, Debian and its derivatives), Windows.

**Applications:** Vim, GNU Plot, L<sup>A</sup>T<sub>E</sub>X, LibreOffice, MS Office.

## Interests

**Computers:** Enjoy using and learning Linux systems, Building electronics projects at home, Web development, and writing software.

**Musical:** Playing guitar and bass.