Himanshu Pandey

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EDUCATION

- **Indian Institute of Science Bengaluru** — Bangalore, India
  Ph.D. in Computational and Data Science(CDS) — Aug 2022 - Present
  Cumulative Performance Index(CPI): 8.8

- **Indian Institute of Science Education and Research Bhopal** — Bhopal, India
  Integrated BS-MS in Physics — Aug 2017 - Apr 2022
  Cumulative Performance Index(CPI): 9.14

ACHIEVEMENTS AND QUALIFICATION

- Recipient of **INSPIRE-SHE** Scholarship. *Aug 2017- Aug 2022*
- Got **AIR 507** (Score: 547, 97.38 percentile) in **GATE** (Physics) 2022.
- Got **AIR 231** (95.47 percentile) in **JEST** (Physics) 2022.
- Cleared **JEE Advanced** (2017) with **10282 AIR**.
- Passed 10th and 12th with 86.16% and 93.8% respectively from UP Board.
- Cleared two rounds of National Talent Search Examination (NTSE).
- Got Certificate for Outstanding performance on following courses conducted by IIT Kanpur
  - Basics of Quantum Mechanics
  - Classical Mechanics
  - Basics of Special Theory of Relativity
  - Classical Electromagnetism
  - Advanced Course on Special Theory of Relativity

RESEARCH EXPERIENCE

- **LiDAR Sensors Simulation for Autonomous Vehicle** — IIT Kanpur, India
  Junior Research Fellow ; Advisor : Prof. Bharat Lohani, IIT Kanpur — May 2022 - Jul 2022
  We have created a detailed 3D terrain model and simulated the output of various LiDAR Sensors (flash, rotating, polygon) using blender python script. Our simulated data were accurate enough to feed in the ML model of an autonomous vehicle.

- **CMB Component Reconstruction from Multifrequency Observations** — IISER Bhopal, India
  MS Thesis ; Supervisor: Dr. Rajib Saha, IISER Bhopal — Apr 2021 - Apr 2022
  We Obtained cleaned maps of CMB temperature anisotropy from contaminate Plank's satellite data using novel global ILC method and generated its power spectrum, further extended our work to simulated weak E-mode and B-mode polarization.

ACADEMIC PROJECTS

- **Throwing π at Wall :** Advisor - Dr. Sunil Pratap Singh — IISER Bhopal, India
  Examined problem involved hidden π in colliding blocks using python. — Mar 2020
- **Audio Processing :** Advisor - Dr. Kushal Saha — IISER Bhopal, India
  Extracted various frequencies from a given audio file and separated vocals and instrumental using MATLAB. — Apr 2019
- **Coupled Anharmonic Oscillators :** Advisor -Dr. Ambar Jain — IISER Bhopal, India
  Examined various aspects of anharmonic oscillators using MATHEMATICA. — Mar 2019

Beside these I have simulated lots of physical and mathematical models that can be accessed via my site, mentioned in bio.

TECHNICAL SKILLS

- **Languages :** Python, C, C++, MATLAB, Wolfram Language, LATEX, HTML.
- **Libraries :** Numpy, Scipy, Vpython, Matplotlib, Pandas, TensorFlow
- **Softwares :** Cloud Compare, Blender, Aperture Photometry Tool

TEACHING EXPERIENCE

- **RAA (Rastriya Avishkar Abhiyan)** — Bhopal, India
  Taught in primary government school. — Aug 2017 - Oct 2019
- **Siksha Sopan** — Kanpur, India
  Taught unprivileged village students under guidance of Dr. HC Verma, IIT Kanpur — May 2019 - July 2019
- **Teaching Assistant** — IISER Bhopal, India
  For course Introduction to Programming — Jan 2019 - May 2019

EXTRA CURRICULAR ACTIVITIES

I am a programming enthusiast and love to simulate physical system and mathematical model. In my spare time I like to do photography and videography. I also like to play chess(ELO 2000 at Lichess) and cricket.