



## PERSONAL INFORMATION Vishal Singh



 D314 ICVS Hostel, IISER Main campus, Mohanpur, Nadia, 741246 HARINGHATA FARM (India)

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Sex Male | Date of birth 19/07/1999 | Nationality Indian

## WORK EXPERIENCE

- 20/12/2019–Present **Research under Prof. Dibyendu Nandi, Principal Investigator of The Center of Excellence in Space Sciences India (CESSI), IISER Kolkata**  
Currently exploring Machine Learning based Assessment of the Solar Forcing of Space Environment. This includes using information from Dopplergrams and Magnetograms to try and predict various phenomena happening on the surface of the Sun.
- 10/08/2019–15/12/2019 **Research Intern under Dr. Bhavtosh Bansal, Associate Professor, IISER Kolkata**  
This was a two phase internship. In the first half we experimentally verified the Kramers–Kronig relations using LCR Circuits. In the second half we explored linking Thermodynamics and Information by the experimental verification of Landauer’s Principle.
- 01/06/2019–31/07/2019 **Research Intern under Dr. Siddhartha Lal, Assistant Professor, IISER Kolkata**  
Did a reading project to get an introduction to Machine Learning. Included making simple neural networks from scratch to identify digits and alphabets.
- 12/05/2018–14/07/2018 **Research Intern under Dr. Pankaj Kumar Mishra, Assistant Professor, IIT Guwahati**  
Worked on Stochastic Resonance in the Lorenz Model (A system of three ordinary differential equations for atmospheric convection) . Did numerical and theoretical Investigations.
- 01/12/2017–01/01/2018 **Research intern under Dr. Rumi De, Assistant Professor, IISER Kolkata**  
Did a reading project exploring a simple model with a novel type of dynamics to investigate the emergence of self-ordered motion in systems of particles with biologically motivated interaction.
- 31/05/2017–20/07/2017 **Research Intern under Prof. Sudeep Bhattacharjee, Sanjay, and Rachna Pradhan Chair Professor, IIT Kanpur**  
Investigated contamination, and time dependence of wettability of metallic surfaces by microwave plasma generated low energy noble gas ion beams.

## EDUCATION AND TRAINING

- 01/08/2016–Present **Integrated BS-MS**  
Indian Institute of Science Education and Research Kolkata, Kolkata (India)  
**Department** :- Physical Sciences  
**CGPA** :- 8.54 (on absolute scale)
- 01/08/2014–22/03/2016 **All India Senior Secondary Certificate Examinations**  
City Montessori School, Council for the Indian School Certificate Examinations(ISC), Lucknow (India)  
**Score**: 96.8%

**Subjects Studied:** Physics, Chemistry, Mathematics, Computer Science, English and Physical Education

01/06/2012–03/04/2014 **All India Higher Secondary Examination**

City Montessori School, Indian Certificate of Secondary Education (ICSE), Lucknow (India)

**Score:** 96.2%

**Subjects Studied:** Science, Mathematics, Social Sciences, Computer Science, English and Hindi.

## PERSONAL SKILLS

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**Communication skills** Well versed in English and Hindi.  
Actively participate in Debates and Dramas and my heart resides in reading and writing stories.

**Organisational / managerial skills**

- **Secretary** of Literary Club of IISER Kolkata (2017-18)
- **Treasurer** of Dramatics Club of IISER Kolkata (2018-2019)
- **Event Organiser** of Inquivesta, India's Largest Science Fest
- **Member of Campus Radio Team** of IISER Kolkata
- **Member of Core Committee** of Lexis, IISER Kolkata's Literary Fest.

**Digital skills**

**Programming languages:**

- **Working knowledge of** Fortran, C, C++
- **Proficient In** Unix, MATLAB, Java, Python (experience in Machine Learning libraries TensorFlow and Keras)

**Media Softwares:**

Adobe Photoshop (photo editing), Vegas Pro (video editing) and Audacity (audio editing)

## ADDITIONAL INFORMATION

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**Honours and awards**

- *Kishore Vaigyanik Protsahan Yojana (KVPY) Fellow.*
- *National Talent Search (NTS) Scholar.*
- Selected twice in *National Standard Examination in Junior Science (NSEJS)* organized by Indian Association of Physics Teachers (IAPT) in the years 2012 and 2013.
- All India Rank 8 in *India Mathematics and Science Talent Examination (2011)*.
- Top 1% all-India in Class XII Examinations

**Conferences and Camps**

- *Current Trends in Modern Physics* lecture series organized by the Physics Society of Department of Physical Sciences of IISER Kolkata.
- National Science (VIJYOSHI) Camp 2016.
- National Science (VIJYOSHI) Camp 2015.
- INSPIRE Internship Programme (Department of Science and Technology) 2014.
- Various colloquiums organised by the Department of Physical Sciences, IISER Kolkata and the Center of Excellence in Space Sciences India (CESSI)

**References**

- Prof. Dibyendu Nandi**, Principal Investigator of The Center of Excellence in Space Sciences India (CESSI), IISER Kolkata (dnandi@iiserkol.ac.in)
- Dr. Pankaj Kumar Mishra**, Assistant Professor, IIT Guwahati (pankaj.mishra@iitg.ac.in)
- Dr. Siddhartha Lal**, Assistant Professor, IISER Kolkata (slal@iiserkol.ac.in)