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Nationality: Indian

Education

Indian Institute of Science Education and Research, Kolkata 2016 - 2021

BS-MS Dual Degree, Physical Sciences

CGPA: 8.79/10

CGPA in Major: 9.24/10

St. Joseph's College, Allahabad 2016

Senior Secondary

Council for the Indian School Certificate Examinations, India

Percentage: 96%

St. Joseph's College, Allahabad 2014

Secondary

Council for the Indian School Certificate Examinations, India

Percentage: 95%

Research Experience

Anton Pannekoek Institute, University of Amsterdam Jun. - Aug. 2021

Supervisor: Alex Cooper and Prof. Ralph Wijers

8 weeks project through the ASPIRE internship programme on exploring electromagnetic interactions of binary neutron star systems and developing a model for Fast Radio Bursts from accretion of asteroids onto neutron stars. Involved theoretical modelling as well as computation on Python.

Masters' Project, IISER Kolkata Aug. 2020 - Jul. 2021

Supervisor: Prof. Dibyendu Nandi

Prediction of solar flares and active region classification by implementing Machine Learning algorithms on vector magnetic field data from the Solar Dynamics Observatory. Working since December 2019, as a member of the Center of Excellence in Space Sciences India (CESSI), and in collaboration with professors from IIT Kharagpur, India and NORDITA, Sweden.

Independent Study, IISER Kolkata Aug. - Dec. 2020

Instructor: Prof. Rajesh K. Nayak

Studied S. Chandrasekhar's book "The Mathematical Theory of Black Holes". Reviewed the analytical methods on which the theory is based, and learnt the various space-times and perturbations arising in the study of black holes.

Harish Chandra Research Institute, Allahabad May - Jul. 2019

Supervisor: Dr. Tapas K. Das

8 weeks reading project in the Department of Physics through the Visiting Students Programme. Involved learning astrophysical fluid dynamics, magnetohydrodynamics and the applications of the Saha ionization equation. Also worked on Bondi accretion.

Institute of Mathematical Sciences (IMSc), Chennai May - Jul. 2018
Supervisor: Prof. Manjari Bagchi

6 weeks internship in the Department of Physics through the Summer Research Programme. Involved coding on Python and MATLAB calculating binary pulsar trajectories and their observational efficiency reductions. Also performed pulsar analysis on Fermi LAT data.

Motilal Nehru National Institute of Technology, Allahabad May - Jul. 2017
Supervisors: Dr. Tamal Ghosh and Prof. P. K. Dutta

4 weeks of workshop followed by 4 weeks of internship in the Department of Chemistry. Involved laboratory preparation of innovative organometallic compounds and performing colorimetric sensing. Included compound analysis using X-ray diffraction, IR, UV and NMR spectroscopy.

Awards and Honours

DST INSPIRE Scholar 2016 - 2021
Awarded fellowship by the Department of Science and Technology (DST), Government of India for a period of 5 years subject to academic performance.

Top 1% all-India in Class XII board examinations 2016

Rego Scholar Award 2014
A memorial award for scoring the highest marks in the Indian Certificate of Secondary Education examinations within the school.

Workshops and Camps

FRB 2021 Conference Jul. 2021
Attended 9-days online conference on Fast Radio Bursts.

Contributed talk at SAIHPA-2021 Mar. 2021
Talk on “*Ranking of parameters and classification of flare productive Solar Active Regions with Machine Learning*” in the Solar Activities and their influences in the Heliosphere and Planetary Atmospheres (SAIHPA) workshop conducted by NIT-Calicut.

39th Meeting of the Astronomical Society of India Feb. 2021
Attended online workshops and lectures on solar active region dynamics and India’s Aditya L1 mission.

Data Science in Astrophysics and Gravitational Wave Research Nov. 2019
Attended 3-days workshop organized by IIIT-Allahabad.

Student Solar Ambassador Workshop, SoULS Initiative Oct. 2019
Organized a one-day workshop on Gandhi Jayanti for 100 school students on solar energy technology and assembly of solar study lamps.

Talk on Robotics using Arduino - Endless Possibilities Mar. 2019
Gave a Science club organized institute-wide talk on the usage and operation of Arduino, along with the implementation of Internet of Things (IoT).

Vigyan Jyoti Shivir (VIJYOSHI) - National Science Camp Dec. 2016

Standardized Tests

<i>TOEFL</i>	115/120. Feb. 2020.
<i>GRE Physics</i>	900/990. Oct. 2019.
<i>SAT</i>	2120/2400. Jan. 2016.
<i>SAT Subject</i>	Mathematics Level 2 - 800/800. Dec. 2015. Physics - 780/800. Oct. 2015. Chemistry - 800/800. Oct. 2015.

Personal and Technical skills

<i>Languages</i>	Hindi (native/bilingual), English (native/bilingual)
<i>Programming</i>	Python, C, Java, C++, MATLAB, L ^A T _E X
<i>Machine Learning</i>	Classification and regression algorithm implementation on both parameter and image based datasets.
<i>Electronics</i>	Embedded electronics and robotics. Experience with Atmel ATmega series microcontrollers and Arduino boards.
<i>Web Development</i>	HTML, CSS, Javascript, jQuery, PHP and SQL.

Institute Engagement and Voluntary Service

- **General Secretary, Academics (BS-MS)** May 2019 - Sep. 2020
Students' Affairs Council of IISER Kolkata
Highest position in the elected students' body. Resolution of students' academic problems in liaison with the administration. Oversight of various clubs and cells of the institute to ensure smooth operation. One of the only two student representatives in the IISER Kolkata Senate.
- **"Swachhata Hi Sewa" Campaign Volunteer** 2019
Unnat Bharat Abhiyaan, IIT Delhi and Ministry of Education
Organized and led student campaign teams in visits to IISER Kolkata's adopted villages to educate rural people about plastic waste disposal and to collect polythene/plastic bags from households in exchange for cloth bags.
- **Contract based Website Development** Jan. 2019
Centre for Career Development, IISER Kolkata
- **Web Design Head & Core Committee member** Apr. 2017 - Mar. 2018
Inquivesta 2018, IISER Kolkata
Led a team of web and mobile app developers to create and maintain websites and an Android app for Inquivesta 8, the eighth edition of the annual fest of IISER Kolkata. Also entailed database management and development of an internal communications and organization platform.
- **Voluntary weekend tuition to middle-school village students** 2014 - 2016
Gauhania village, Prayagraj, India

Extracurricular Activities

- Treks to Kuari Pass (3815 m) in December 2017 and to Rupin Pass (4650 m) in May 2019. Enjoy hiking and spending time amongst nature.
- Participated in intramural basketball championships in 2016, 2017 and 2019.
- Guitarist in intra-college band “Frequency” since 2018.
- North India Zone finalist in the Frank Anthony Memorial All India Inter-School Debate, 2014.
- Love to swim and play squash.

References

1. Prof. Dibyendu Nandi - dnandi@iiserkol.ac.in
Professor, Department of Physical Sciences and Center of Excellence in Space Sciences India (CESSI), IISER Kolkata, India.
2. Prof. Ralph A.M.J. Wijers - r.a.m.j.wijers@uva.nl
Professor of High-energy Astrophysics, Anton Pannekoek Institute of Astronomy, University of Amsterdam, The Netherlands.
3. Prof. Manjari Bagchi - manjari@imsc.res.in
Professor of Theoretical Physics, The Institute of Mathematical Sciences, India.