

# BARSHAN RAY

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## PERSONAL PROFILE

Currently enrolled in the BS/MS program at IISER Kolkata, I aspire to pursue a career in physical sciences.

The broad subject of astrophysics appeals to me, with an admitted bias towards stellar physics, nebulae, and their intersection as star formation and protostellar systems.

I am looking for opportunities to gain more experience in the aforementioned subjects.

Also, computer science (both theoretical and implementational) incites a passion and excitement in me like no other subject.

That itch in my brain can only be satisfied by a constant feed of beautiful algorithms and computational genius to obsess over.

## EDUCATION

### 2020–Current

#### BS–MS Dual Degree

Indian Institute of Science Education and Research Kolkata

CGPA: 8.52 (V Semester)

### 2019–2020

#### 12th Board Exams (ISC)

St. Mary's Higher Secondary School

Aggregate: 94%

## EXPERIENCE

### 2022–Current

#### Center of Excellence in Space Sciences, India (CESSI)

- Learning plotting and analysis of solar data.
- Helping maintain the CESSI space weather website.
- Tinkering around with neural networks, training them on solar light curves.

### June 2023–August 2023

#### National Taiwan Normal University (NTNU), Taiwan

- Worked as a summer intern under Dr. Yueh-Ning Lee.
- Worked on “Establishing Stable Protoplanetary Disc Radii Threaded by horizontal magnetic fields.”
- Presented my work at the end of the program.

## SKILLS

### Quick, intuitive learner

#### Python

●————●—○ Great

#### Neural Networks (PyTorch)

●————●—○ Good

#### Julia

●————●—○ Decent

#### C

●————●—○ Great

#### Java

●————●—○ Good

#### C++

●————●—○ Good

#### LaTeX

●————●—○ Great

#### C#

●————●—○ Decent

## MY HOBBIES

### Amateur

#### Astrophotography

I like engaging in deep-sky astrophotography with my budget Canon EOS 1500D.

#### Coding

I love a challenge. Although I love fidgeting around with code, a challenge is what gets my blood pumping.

#### Gaming

I play competitive shooters and a fair share of single-player campaigns.

#### Ricing

The link describes it all!

## CONFERENCES & SCIENCE CAMPS

### *June 2023–August 2023*

#### ○ NCTS Theoretical and Computational Astrophysics Summer Student Program

- Organised by and at the National Center for Theoretical Sciences (NCTS), Taiwan.
- Interacted with eminent researchers active in the field of astrophysics in the Asian region.
- Attended a 3-day workshop, followed by a summer internship under Dr. Y.N. Lee (mentioned above).

### *June 2022–July 2022*

#### ○ SPARC Workshop on Machine Learning in Solar Physics and Space Weather

- Organised by and held in CESI.
- Attended a week-long workshop detailing machine learning and neural network techniques employed in the solar physics domain.
- Interacted with eminent researchers working in solar physics and space weather, from India and Sweden.

### *February 2022*

#### ○ SOKENDAI Asian Winter School on astronomy and astrophysics (Online)

- Attended a week-long workshop on ongoing research in the astrophysical domain.

### *December 2019*

#### ○ Vijyoshi National Science Camp

- Organised by KVPY in IISER Kolkata.

### *June 2019*

#### ○ JBNSTS Summer Science Workshop Program

- Organised by JBNSTS in 2019, in IISER Kolkata.

## FELLOWSHIPS & GRANTS

- **KVPY** (Kishore Vaigyanik Protsahan Yojana) 2018 SA fellow, All India rank 381.
- Jagadis Bose National Science Talent Search (**JBNSTS**) program Junior Scholar (+2 level).