

BIRUPAKSHA DE

BS-MS Student (Sophomore), IISER Kolkata

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About Myself

Hi, I am Birupaksha De. I am currently in my 2nd Year pursuing BS-MS at IISER Kolkata.

I have a keen interest in "Astrophysics & Space Sciences", with a growing interest in "Space Technology", including areas like Rocket Propulsion and Satellite Systems. My focus revolves around the fields of Computational Astrophysics (including Data-driven aspects of Astronomical Data), High Energy Astrophysics (especially in Multi-messenger Astrophysics), Radio Astronomy, & Solar-Terrestrial Physics/Space Weather.

I am drawn to the way Data, Theory, and Physical Phenomena connect to reveal the Hidden Mechanics of our Universe.

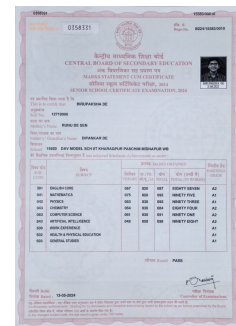
Education

Bachelor of Science(BS) & Master of Science(MS)

- IISER Kolkata (Currently pursuing), 2024-2029
- CGPA = 8.65 (out of 10)

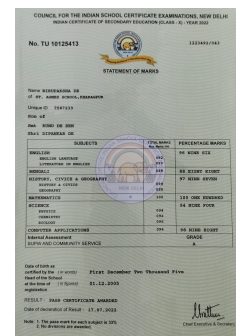
Senior Secondary School

- CBSE (Class 12th Boards) 2024 — DAV Model School, IIT Kharagpur
- Marks % = 92.8% (Best of 5)
91.33 % (All Subjects)
- Physics = 93 %, Mathematics = 95 %, Chemistry = 84 %, English = 87 %, Computer Science = 91 %, Artificial Intelligence = 98 %



Secondary School

- ICSE (Class 10th Boards) 2022 — St. Agnes School, Kharagpur
- Marks % = 97% (Best of 5)
95.5 % (All Subjects)
- Physics = 94 %, Mathematics = 100 %, Chemistry = 92 %, Biology = 95 %, English = 96 %, Computer Science = 98 %



Research Experience & Projects

Visual Simulation of Hohmann Transfer in Python (June 2025)

- Simulated the Hohmann transfer, a two-impulse orbital maneuver for fuel-efficient transfer between circular orbits, and visualized trajectory dynamics in Python.
- Independent Project

Courses & Certificates

- The Evolving Universe offered by CalTech

Instructor : Prof. S.G. Djorgovski

[Click Here](#) to view the Certificate

- The Science of the Solar System offered by CalTech

Instructor : Prof. Michael E. Brown

[Click Here](#) to view the Certificate

- Fundamentals of Remote Sensing offered by NASA



- Rocket Science for Everyone offered by Yale University

Instructor : Prof. Marla Geha

[Click Here](#) to view the Certificate

- IBM Data Science (Professional) offered by IBM

[Click Here](#) to view the Certificate

- Mathematics for Machine Learning & Data Science (Specialization)

Offered by DeepLearning.AI

Instructor : Prof. Luis Serrano

[Click Here](#) to view the Certificate

- Fundamentals of Flight Mechanics (Specialization)

Offered by ISAE-SUPAERO

Instructor : Prof. Eric Poquillon

[Click Here](#) to view the Certificate

- Rocket Propulsion (NPTEL Course)

Offered by IIT Madras

Instructors : Prof. K. Ramamurthi & Prof. P.A. Ramakrishna

(Currently Pursuing)

Workshops

- Intro2Astro 2025 Workshop

Instructors : Prof. Fei Dai (University of Hawaii)

Prof. Howard Isaacson (University of California, Berkeley)

Chetan Chawla (ZS)

Skills

- Astronomical Data Analysis
- Exoplanet Detection Methods
- Using Astronomical Datasets (NASA Exoplanet Archive)
- Python (Jupyter, NumPy, Pandas, Matplotlib, SciPy, AstroPy)
- Machine Learning, Data Visualization, Data Wrangling
- Scikit-Learn, Seaborn, Folium
- Geospatial Data Analysis
- Scientific Data Analysis
- Exploratory Data Analysis (EDA)
- SQL & Databases, DBMS
- Java, R, C Programming Languages
- Git, Linux, LaTeX

Achievements

- IISER Aptitude Test (IAT) 2024

All India Rank (AIR) = 1830 (GENERAL Category)

- National Entrance Screening Test (NEST) 2024

QUALIFIED !! (GENERAL Category)

Hobbies

- Playing Cricket
- Swimming
- Singing and Listening to Music
- Watching Movies
- Playing Video Games