SANNIDHYA RAY

Course : B.E. Electronics and Communication & M.S. Physics (2023-2028)
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CGPA : 7.32

ACADEMIC DETAILS

COURSE	SPECIALIZATION	INSTITUTE	BOARD	SCORE	YEAR
CLASS XII	SCIENCE	**Delhi Public School, Greater Noida**	CBSE	94.8%	2023
CLASS X	GENERAL	**Delhi Public School, Greater Noida**	CBSE	96%	2021

INTERNSHIPS AND PROFESSIONAL EXPERIENCE

Remote Sensing and GIS Intern, India Space Academy - Department of Space   **July 2025 – August 2025**
- Mapped the **changes in vegetation cover** in the Sundarbans Region from 2000 to 2023, applying advanced geospatial analytics for reporting.
- Utilized **Google Earth Engine** and **Quantum GIS** to process satellite imagery and analyse ecological trends over multiple decades.

Summer Intern, Siemens EA   **May 2025 – July 2025**
- Developed and integrated a **program for real-time monitoring** of a wave soldering machine, improving manufacturing system efficiency.
- Programmed and optimized solutions using **C#, Python (PyQT5, PyODBC)** and **SQL** to streamline automation during manufacturing.

Front-End Developer, AIDA Solutions - Digital Agency based in Delhi   **April 2025 – Present**
- Delivered robust **front-end** software projects for clients, ensuring responsive design and highly optimized user experience at scale.
- Designed and implemented custom interfaces using **HTML, CSS** and **React.js** to support technical client requirements for web applications.

POSITION OF RESPONSIBILITY

Founder/President, BITS Motorsport Society   **August 2025 - Present**
- Founded and established BITS Pilani's first motorsport society, uniting enthusiasts to explore automotive engineering, racing, and design.
- Organized workshops, technical sessions, and campus-wide events to foster innovation and expand student participation in motorsport culture.

Outreach Coordinator, Team Anant – BITS Pilani's Student Satellite Team   **March 2025 – Present**
- Developed **advanced image processing algorithms** and payloads for 1U/2U/3U CubeSats, significantly expanding nanosatellite capabilities.
- Coordinated technical communication with external research organizations, facilitating satellite launch and high-quality data retrieval

Graphic Design Lead, Students' Union Media Team   **March 2025 - Present**
- **Managed** a high-performing 10-member graphic design team to deliver impactful creative assets for **campus-wide** events and initiatives.
- Designed engaging posters and effective advertisement campaigns for major campus events, increasing outreach and student visibility.

PROJECTS/PUBLICATIONS

Research – Dielectric characterization of liquid crystals with terphenyl doping   **Present (Ongoing)**
- **Laboratory-based** experimental project involving dielectric characterization of liquid crystal systems.
- Performed **frequency and temperature-dependent dielectric measurements and data analysis.**

Imager – AI detector for images   **December 2025**
- Designed an **AI image detection system** to assess likelihood of AI-generated content using **multi-signal forensic analysis**.
- Combined **CNN feature variance, frequency-domain texture analysis, and metadata inspection** within an ensemble-based **FastAPI backend**.

FormulaT - Tyre survival prediction tool   **September 2025**
- Built and trained a **predictive model** for Formula 1 tyre survival probabilities using historical data and cutting-edge machine learning.
- Used **Random Survival Forests (RSF), FastF1** and innovative data preprocessing workflows to forecast racing tyre performance.

Feature Classification of multispectral satellite imagery using CNNs   **December 2024**
- Created a robust **deep learning model for object and landform classification** from remote sensing imagery and complex datasets.
- Utilized **Convolutional Neural Networks (CNNs)**, advanced multispectral preprocessing workflows, and **Python (TensorFlow, Keras, and NumPy).**

Real Time Flight Management System   **January 2023**
- Developed a comprehensive **flight database architecture** capable of supporting **real-time flight data updates and advanced querying**.
- Implemented efficient data management, high-speed processing, and advanced querying using Python (mysql-connector-python) and MySQL.

EXTRA CURRICULAR ACTIVITIES AND ACHIEVEMENTS

Debating and MUNs
- Achieved **top awards and recognition** as a leading participant in debate and Model United Nations events at school and university.

Fit in Deutsch 1 – Distinction + National German Olympiad (B1)
- Selected among the **top 50 students nationwide** for a sponsored Goethe Institute trip to Nainital, recognized for academic excellence.