

Antara Chakraborty

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Summary

Biotechnology Student at KIIT University located in Bhubaneswar, India. Contributing to an ongoing research on environmental bioinformatics focusing on data analysis and Python-based genomic data handling. Previously developed IoT-based applications for vertical farming and soil health optimisation. Proficient in handling laboratory equipment, data interpretation, biostatistics application, communication, and presentation.

Skills

- **Data Analysis and Bioinformatics:** data interpretation, biostatistical analysis, handling real-life genomic datasets, Python-based scripting for data processing, Perl, Python, C, and C++, and R Programming.
- **Biosensor in Vertical Farming:** NodeMCU, Arduino, and Raspberry Pi for sensor integration and automation.
- **Biotech and Laboratory Techniques:** molecular cloning, PCR, gel electrophoresis, recombinant DNA technology, buffer preparation, SDS-PAGE, chromatography, and spectroscopy.
- **Communication and Presentation:** Effective in team settings, with strong presentation abilities for technical content.

Experience

- Aug 2025 – Present
Undergraduate Research Trainee, Environment Biotechnology Lab
KIIT School of Biotechnology, Bhubaneswar, Odisha
Working under **Dr Vishakha Raina**, contributing to bioinformatics-based environmental genomics research. Responsibilities include data analysis and Python scripting for genomic datasets, with a focus on computational modelling and the integration of real-world genomic sequence data.
- Jan 2026 – Present
Founder & President, BIOGENIX – AI & Biotechnology Club
KIIT University, Bhubaneswar, Odisha
Founded and led an interdisciplinary student club focused on AI-driven biotechnology. Lead academic planning, technical sessions, and collaborative initiatives bridging wet-lab biology with computational methods.
- Jun 2025 - June 2025 (1 month)
Cryo-Electron Microscopy (Cryo-EM) Training Program
CSIR – Indian Institute of Chemical Biology (CSIR-IICB), Kolkata

Received practical training in Cryo-EM workflows including sample preparation, grid handling, vitrification principles, and structural biology applications for macromolecular analysis.

- 09/2024 – 08/2025
Student Intern, under Dr Subhra Debdas, Bhubaneswar, India
Contributing to a multidisciplinary project integrating Internet of Things (IoT) technology with AI/ML in vertical farming systems.
- **Winter Internship Program**
Completed from: KIIT School of Biotechnology
Duration: 16 Dec 2024 – 20 Dec 2023
Topic: Hands-On-Training on Animal Handling, Tissue Sectioning, in Vivo Drug Monitoring and Microbial Biology

Education and Training

Expected in 06/2028

B.Tech & M.Tech Dual Degree, Biotechnology

KIIT School of Biotechnology, Bhubaneswar, Odisha

(CGPA: 9.02, till semester-5, 2025-26)

03/2023

Certificate of Higher Education/ CBSE, Science (PCMB)

Swami D.D.K. Baba Mission School, Agartala, Tripura

Percentage: 73.4%

03/2021

Secondary School Certificate| CISCE

St. Paul's School, Agartala, Tripura

Percentage: 87%, Grade: A

Certifications & Patents

- **Indian Ideation Patent:** System for Harnessing IoT and AI/ML for Sustainable Vertical Farming
Patent No.: 202431099109 | Issued: Dec 27, 2024
Co-authors: Mr.Soham Dey Biswas, **Miss Antara Chakraborty**, Dr. Chinmoy Kumar Panigraha, Dr.Subhra Debdas, Mr.Sthitprajna Mishra.
- **Genomic Data Science Specialisation: The Johns Hopkins University**
Credential ID: P4OW4XP6ZOLD
Completed a 6-course specialisation on analysing and interpreting data from next-generation sequencing (NGS) experiments
DNA, RNA, and epigenetic data analysis using Python, R, Bioconductor, Unix/Linux command line statistical modelling, and genomic technologies.
- **mRNAs as Medicines: Moderna**
Credential ID: KV2AU9UU07TQ
Explored the molecular principles of **mRNA therapeutics** and their role in **infectious diseases**
- Attended a workshop on 9th INSCR International Conference 2025 – "Microbes & One

Languages

Bengali: First Language

English: C2
Proficient (C2)

Hindi: C2
Proficient (C2)

Hobbies And Interests

- Digital Art and Illustration
 - Vocal Classical Music
 - Photography and Visual Storytelling
 - Poetry
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References

References available upon request.