

# Argajit Sarkar

Master's of Science, Molecular Biology  
& Bioinformatics

Email: \*\*

Phone: \*\*

[Linkedin](#) | [GitHub](#)

**Portfolio site:** <https://argajitsarkr.github.io>

## SUMMARY

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I am a **PhD Candidate** bridging microbial pathogenesis with Artificial Intelligence. My research at Tripura University involves applying **Deep Learning** and **Large Language Models** for Drug Discovery to combat **antimicrobial resistance (AMR)**. My current project is a data-driven workflow to repurpose drugs against multidrug-resistant pathogens, with the goal of creating a faster, more efficient pipeline for discovering therapeutics against high-priority pathogens.

Apart from that, I'm also an **NEP Saarthi 2020 Ambassador**, conducting workshops, events, promoting key policies and initiatives of the University Grants Commission (UGC) and Ministry of Education (Govt. of India) throughout the University.

## EDUCATION

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### Doctor of Philosophy (PhD) in Molecular Biology & Bioinformatics

Nov, 2024 – Present

Tripura University, Agartala, Tripura, India

Course work: Completed

### M.Sc in Molecular Biology & Bioinformatics

Nov, 2022 – July 2024

Tripura University, Agartala, Tripura, India

CGPA: 8.15/10

### B.Sc in Human Physiology with Honours

Mar, 2019 – Sept 2022

Holy cross college, Agartala, Tripura, India

CGPA: 6.45/10

## PUBLICATIONS & PREPRINTS

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- **Sarkar, A.**, Bhattacharjee, S. Biofilm-mediated bioremediation of xenobiotics and heavy metals: a comprehensive review of microbial ecology, molecular mechanisms, and emerging biotechnological applications. 3 Biotech 15, 78 (2025). <https://doi.org/10.1007/s13205-025-04252-2>
- Barik, S., Goswami, S., Nanda, P. K., Sarkar, A., Saha, B., **Sarkar, A.**, & Bhattacharjee, S. (2025). TGF-beta plays dual roles in immunity and pathogenesis in leishmaniasis. Cytokine, 156865. <https://doi.org/10.1016/j.cyto.2025.156865>
- **Sarkar, A.**, Ghosh, E., Bhattacharjee, S (2025). Harnessing Generative Artificial Intelligence for Periodontitis Prediction: A Machine Learning Approach Integrating Systemic Health Indicators for Precision Oral Health in Resource-Limited Settings. SSRN Preprint. <https://dx.doi.org/10.2139/ssrn.5334047>

## EXPERIENCE

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- Disstertation project titled “Exploring the Combinatorial Antimicrobial and Anti-Virulence Potential of Quercetin with Antibiotics Against *Vibrio cholerae*”. Feb – July, 2024

Six months of experience in the molecular biology and bioinformatics laboratory, where I collaborated with PhD scholars to conduct various experiments and relevant data to support our title, culminating in a perfect 10/10 SGPA.

## SKILLS

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AI & ML: LLM, Machine Learning, Generative AI, AI Ethics, Hugging Face, GitHub.

Lab: Cell culture techniques, Blotting techniques, Gel Electrophoresis, DNA & RNA isolation, Antimicrobial, and Antibiofilm assays.

Data Science: MS Excel and Python.

Relevant Courses: Professional Data Analytics, Python for Data Analytics

## COFFERENCE, SEMINARS & AWARDS

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- **Oral Presentation** at Research Catalyst Global Symposium (RCGS), September 2025 ([View Certificate](#))
- **Oral Presentation** at National Conference on Recent Trends in Biological Sciences in Northeastern India (NCRTBSNEI-2025), March 2025. ([View Certificate](#))
- Participated in the Science Beyond Borders (Global S&T) event, India International Science Festival (IISF), 2024, at IIT Guwahati, Assam. ([View Certificate](#))
- Santanu Kar Memorial Merit Award (**Holy Cross College**), Agartala, Issued February 2021, *Awarded for academic excellence during the academic year 2019/2020.* [View Certificate \(PDF\)](#).

## LICENSES & CERTIFICATIONS

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### Data Science & Analytics

Python for Data Science and AI (IBM), Issued May 2025

- Credential: [IBM20250505-27-27jee.pdf](#))

Data Analysis with ChatGPT (365 Data Science), Issued November 2024

- Credential ID: CC-FB6B33CB37

Understanding Data Visualization (DataCamp), Issued November 2024

- Credential ID: d860df08f4b1b2114d0072fc55ca03f3932b962a

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## AI & Machine Learning

AI Ethics (365 Data Science), Issued April 2025

- Credential ID: <https://learn.365datascience.com/certificates/CC-2ED2BAD10C/>

NPTEL+ Workshop: WEKA Machine Learning for Healthcare, NPTEL (IIT Madras), Issued February 2025

- Credential ID: NP25WS227620603284

Understanding Machine Learning (DataCamp), Issued November 2024

- Credential ID: 736828043119ec438e22a229c26f0ca64ebeatfd

ChatGPT and Generative AI (365 Data Science), Issued November 2024

- Credential ID: [CC-3D92AF4DD9](#)

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## Bioinformatics & Genomics

Genomic Data Science (Coursera), Issued April 2025

- ([View Certificate \(PDF\)](#)) Credential: Coursera OQ8CTG38Q19J)

Workshop on "Multi-Ligand Docking Training with Vina and PyRx!" (Research Boulevard), Issued October 2024

- Credential ID: RBT/MD/ADMET/14/10/24/0054 ([View Certificate \(PDF\)](#))

*2 Day Hands-on workshop "Comparative Genomics: Evolutionary Genomics Application," (Kent State University in Collaboration with Tripura University), Issued May 2024*

- Relevant Skills: Bioinformatics, Evolution, Evolutionary Biology
- [Certificate \(PDF\)](#)

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## Other Relevant Certifications & Workshops

Other Relevant Certifications & Workshops (IIT KANPUR) 12-Week course: Wildlife Ecology

- NPTEL, Issued January 2024
- ([View Certificate \(PDF\)](#))
- Relevant Skills: Ecology, Wildlife Biology

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## Affiliations

ASM Global Outreach-Student Member (American Society for Microbiology), Issued January 2025

- [Certificate \(PDF\)](#)

Global Outreach-Student Member (British Society of Immunology), Issued August 2025