ROHAN GHOSH DASTIDAR

(+91) 9123020755 ◇ rgdastidar2069@kgpian.iitkgp.ac.in ◇ Website ◇ Github ◇ Linkedin

EDUCATION

Indian Institute of Technology Kharagpur, India *November 2022 - Present*
Integrated Dual Degree, Department of Chemical Engineering **CGPA: 9.02/10**
Minor in Biotechnology & Biochemical Engineering *(till 4th sem)*

Indira Gandhi Memorial High School, Kolkata, India *2021*
Central Board of Secondary Education, CBSE (Class XII) **86.6%**

Pramila Memorial Institute, Kolkata, India *2019*
Indian Certificate of Secondary Education, ICSE (Class X) **97.6%**

RESEARCH INTERESTS

Protein Engineering, Systems Biology, Computational Oncology, Application of Machine Learning in Biological Systems - De Novo Peptide Design, Identification of Drug targets

RESEARCH EXPERIENCE

Computational Systems Biology Lab, ECE Dept, IIT Kharagpur *May '24 - Present*
Mentor: Dr. Ritwik Kumar Layek (Associate Professor, ECE Department)
Topic: Mathematical modelling of Bacterial Chemotaxis using probabilistic and stochastic methods

Predicting *Escherichia coli's* chemotactic drift and estimation of drift velocity (using MATLAB) under (spatio-temporal) exponentiated sinusoidal Ligand concentration gradient

Biomolecular Nanotechnology Lab, CIC biomaGUNE, Spain *(Remote)* *May '24 - June '24*
Mentor: Dr. Aitziber López Cortajarena (Scientific Director & Principal Investigator)
Topic: Engineering protein - based functional Bioelectronic materials

Designed new CTPR (Consensus Tetratricopeptide Repeated protein) variants (using PyMOL) that contain electron-active tryptophan (W) substitutions along the concave or the convex faces of a CTPR superhelix to promote electron conductivity.

Protein Engineering & Structural Biology Lab, IIT Kharagpur *Nov '23 - April '24*
Mentor: Dr. Soumya De (Associate Professor, Dept. of Bioscience & Biotechnology)
Topic: Designing therapeutics to target protein - protein interactions that lead to diseases.

Wet lab - Performed plating, Molecular cloning, SDS PAGE, PCR, Site-directed mutagenesis, Protein purification (Ni-NTA Affinity Chromatography), Primary culture & protein expression
Computational - Analyzed protein structures in PyMOL, ChimeraX; ran Energy minimization algorithms in ROSETTA; performed basic MD simulation of proteins using GROMACS

SKILLS

Languages	C, C++, Python, MATLAB
ML Frameworks	TensorFlow
Computational Biology	PyMOL, ChimeraX, ROSETTA, GROMACS

RELEVANT COURSES

IIT Kharagpur	Programming and Data structures, Advanced Calculus, Linear Algebra, Microbiology, Cell and Molecular Biology, Science Of Living Systems, Chemistry, Thermodynamics, Fluid Mechanics, Mass Transfer
Online Courses	Dynamical Modeling Methods for Systems Biology **[Link]** Integrated Analysis in Systems Biology Supervised Machine Learning: Regression and Classification **[Link]** Advanced Learning Algorithms

ACADEMIC ACHIEVEMENTS

IIT-JEE Advanced, 2022	Rank 5702 (250,000 candidates)
JEE Mains, 2022	Rank 9609 (1,000,000 candidates)
WBJEE, 2022	Rank 602 (80,000 candidates)

EXTRA - CURRICULARS

- Web development - HTML, CSS, JavaScript (basic) **[Link]**
- Student mentor to Chemical Engineering undergraduate freshmen
- Volunteer for National Service Scheme **[Link]** & Animal Welfare Group
- Guitarist for *OFF-BEAT* (Music group)