

Rushikesh Deshpande

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Date of Birth: 04/10/2001 **GitHub:** <https://github.com/Mr-r-a-d>

Professional Summary

Dynamic bioinformatics professional with expertise in drug design, NGS data analysis, and molecular dynamics. Skilled in Python, Biopython, R programming, and machine learning. Proficient with bioinformatics tools (BLAST, ClustalW, Galaxy) and Linux utilities (awk, grep, sed). Experienced in Bash scripting and practical laboratory skills.

Experience

Project Intern

September 2024 to Present

Centre for Development of Advanced Computing

C-DAC Innovation Park, Pune

- Constructed Genome-Scale Metabolic Network (GSMN) from M. tuberculosis transcriptomics data, including differential expression and fold change analysis, leveraging RNA-seq for reaction network insights and KO simulations with the SurryFBA tool.
- Performed Differential Producibility Analysis (DPA) of transcriptomic data using metabolic network models, identifying shifts in metabolite producibility linked to gene expression changes.
- Integrated gene expression data into metabolic models using Flux Balance Analysis (FBA) to assess metabolite producibility, performing cluster and statistical analyses to reveal patterns of up- and down-regulation impact on the metabolic network.

Project Intern

May 2024 to Present

RGITBT-BVDU College - Pune

- Identifying Inhibitors of Molecular Targets Using Similarity-Based Search as Anti-Cancer Agents, With Emphasis on Target Specificity
- Identified inhibitors of molecular targets contributing to the development of lung and liver cancer using a similarity-based search
- Contributed to research on drug discovery and development
- Applied bioinformatics and computational methods in analysis.

Summer-Intern

February 2023 to April 2023

Wokhardt Biotech Park - Aurangabad

- Participated in pharmaceutical product sampling, testing, and documentation
- Gained hands-on experience in the handling of laboratory equipments, as well as conducting testing procedures in the QC department
- Learned about environmental monitoring, microbial testing, quality control processes.

Projects

- Identifying Inhibitors of Molecular Targets Using Similarity-Based Search as Anti-Cancer Agents, With Emphasis on Target Specificity 05/2024: Present.
- Next Generation Sequencing and Biomarker Data Analysis of cf-DNA of Head and Neck Cancer 08/2024: Present.
- Protein Secondary Structure Prediction from Nucleotide sequence using Python and Chou-Fasman Algorithm. 09/2024: Present.
- Cancer Recurrence Analysis and Prediction using Decision Tree Algorithm 03/2024-04/2024

Education

Completed coursework towards PGD in Bioinformatics

RGITBT-BVDU College - Maharashtra

Completed coursework towards BTech in Biotechnology

MGM College of Agricultural Biotechnology - Maharashtra

Skills

NGS Data Analysis

Bioconda

MS-Office

Drug Designing

Bash scripting

Linux tools - awk, grep, sed

Python, Biopython and ML

R programming

MySQL

Molecular Dynamics and Simulation

Bioinformatics Tools - BLAST, ClustalW, Galaxy

Laboratory Skills