

# Mayur Sonkusare

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## SUMMARY

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Results-driven Bioinformatics and Microbiology professional with expertise in structural proteomics, molecular biology, and drug discovery. Skilled in computational modeling, Python/Linux, and advanced in-silico lab techniques to drive precision medicine and therapeutic research.

## SKILLS

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- **Core Competencies:** Microbiology, Structural Proteomics, Molecular Biology, Drug Discovery, Cancer Genomics, ICH guidelines.
- **Programming & Tools:** Python, Linux, MySQL, Microsoft Office (Word, Excel, PowerPoint)
- **Protein Alignment & Analysis:** BLAST, PyMOL, Chimera, Discovery Studio
- **Protein Modelling:** MODELLER, SwissModel
- **Protein-Ligand Docking:** AutoDock, AutoDock Vina, PyRx, iGEMDOCK
- **Protein-Protein Docking:** ClusPro, HADDOCK
- **Interaction & Network Analysis:** Cytoscape, STRING Database
- **Databases & Resources:** NCBI, PubChem, DrugBank, Ensembl, UniProt, SwissADME, EnrichR, PDB, PDBsum

## EXPERIENCE

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### Associate Scientist at Cellworks Research India Pvt. Ltd

Feb 2025 – Present

- Writing SOP for Boston Gene report capture and portal integration enabling single-click execution and reducing manual intervention.
- Automated Ventura product grouping using Python to generate formatted Excel outputs for drug-combination families.
- Led QC for Tempus Automation reports and validated automated inputs, reducing manual file creation.
- Streamlined 1,000+ page patient reports by adding hyperlinks for key sections to improve physician navigation.
- Authored Step 4 optimization document to improve Master Regulator Identification accuracy and gained leadership approval.
- Ensured accurate capture of 278 cancer indications in portal QC project, maintaining FDA and NCCI compliance standards.
- Validated therapy assignment workflows to support physician treatment decision-making.
- Contributed to portal enhancements across regression and production; conducted production stack testing and post-release tracking.
- Extracted patient-specific genomic data from multiple NGS reports to generate input files for therapeutic simulations.
- Debugged and resolved multi-step simulation failures via logs and database analysis; used MySQL extensively for data retrieval and validation.

### Intern (R&D) at Cellworks Research India Pvt. Ltd.

Aug 2024 – Feb 2025

- Trained in 7-step company workflow for debugging process issues.
- Mapped pathways and genes to optimize BioAssembly code.
- Adopted Jira Agile Scrum / Kanban workflows to support product management for cellwork's products.
- Served as a step holder for Master Regulator Identification (Step 4) and supported external order simulations and therapeutic impact analysis.

## PROJECT

**In-silico screening and interaction study of known compound derivatives vs F-Actin.** [\[Certificate\]](#) [🔗](#)

*Dec 2024 - Jun 2025*

- Performed virtual screening of known compounds, molecular docking (AutoDock Vina), and MD simulations (GROMACS).
- Performed ADMET/toxicity prediction (SwissADME, PKCSM) and pathway/network analysis (STRING, Cytoscape, Enrichr).
- Identified stable ofloxacin derivatives with strong F-actin binding and generated insights into actin-drug interactions and potential therapeutic targets.

## PUBLICATION

1. Compendium of Research Insights of Life Student, Volume-2, ISBN No.: 978-81-947154-5-0  
**Topic: Methemoglobinemia Diseases** [\[Link\]](#) [🔗](#)
2. Compendium of Research Insights of Life Student, Volume-3, ISBN No.: 978-93-91342-27-2  
**Topic: Overview of Zika Virus** [\[Link\]](#) [🔗](#)
3. Research and Development in Pharmaceutical Science, Volume-1, ISBN No.:978-81-951982-4-5  
**Topic: Effective pharmaceutical drug treatment against SARS-CoV-2 Infection** [\[Link\]](#) [🔗](#)
4. Poster Presentation in Sciforum  
**Topic: Study of SUM159 Cell Lines Untreated and Treated with the drug Mebendazole and its effect on Transcriptome Level (RNA-Seq Analysis)** [\[Link\]](#) [🔗](#)

## EDUCATION

**B.Sc. in Microbiology**

*2019–2022*

B.K. Birla College of Arts, Science & Commerce

*CGPA: 9.75 / 10*

**M.Sc. / Masters in Bioinformatics**

*2022–2024*

D Y Patil School of Biotechnology and Bioinformatics

*CGPA: 9.13 / 10*