Yashwant Nama

🌐Jaipur, India 📞+91 9602321982 | ✉️nama.yashwant@gmail.com
in https://linkedin.com/in/yashwant-nama-232b2437b/
🔗https://github.com/YASH4-HD

Research Profile

Molecular biologist and computational researcher specializing in systems-level analysis of complex biological networks. Experienced in Python-based modeling, multi-omics integration, and development of interactive bioinformatics tools(Streamlit). Focused on translational immunology, mechanistic modeling, and reproducible computational frameworks for hypothesis-driven research.

Research Experience

- **COMPUTATIONAL RESEARCH & TOOL DEVELOPMENT** December 2025 - Present
  Independent Researcher
  Developed a suite of interactive, hypothesis-driven computational frameworks to investigate neurodegenerative and immunological mechanisms:
  •Huntington's Disease Research App:
  Built a Streamlit-based pipeline for pathway enrichment and network-level interpretation of neuro-metabolic dysfunction.
  •CD40 Immunosome Tool:
  Modeled regulatory networks and protein-protein interactions within the immunosome complex.
  •Neurometabolic Validation V2:
  Integrated multi-omics gene sets (OMIM, KEGG) to analyze cellular energy homeostasis and metabolic adaptation.
  •Bio-Tech Smart Textbook (Developer):
  Developed an interactive platform utilizing APIs to integrate real-time biological data for mechanistic hypothesis testing in biotechnology and molecular genetics.
  >Links available on request.
  Key Technical Impact:
  Utilized Python and Streamlit to transform static genomic data into interactive diagnostic prototypes.
  Emphasized biological interpretability over "black-box" models to support mechanistic hypothesis generation for wet-lab validation.

- **Rapture Biotech, Jaipur** April 2025 - June 2025
  Research Trainee
  • Performed core molecular biology experiments (DNA/RNA isolation, PCR, agarose gel electrophoresis) supporting experimental validation of biological hypotheses related to gene expression and cellular function.
  • Conducted controlled laboratory experiments, maintained experimental reproducibility, and followed standard operating procedures (SOPs) and biosafety guidelines in a research laboratory environment.
  • Assisted in experimental workflows related to recombinant DNA technology and protein analysis.
  • Used bioinformatics tools for sequence alignment and basic phylogenetic analysis.
  • Maintained laboratory records and followed standard biosafety protocols.

Teaching & Leadership Experience

- **Subject Matter Expert (CSIR-NET & GATE Life Sciences) | 2022 – Present**
  • Mentored and taught postgraduate students preparing for national-level competitive exams in India.

- **Academic Presenter | Stani Memorial P.G. College | 2019 – 2021**
  • Developed skills in visual communication and public speaking for scientific audiences.

Education

- **Stani Memorial P.G. College (Rajasthan University)** 2021
  M.Sc Zoology
  72.68%

- **Maharaja College (Rajasthan University)** 2019
  B.Sc (Hons) Zoology
  71.09%

Skills

- **Wet Lab & Experimental:**
  • Molecular Biology: DNA/RNA Isolation, PCR (Polymerase Chain Reaction), Agarose Gel Electrophoresis.
  • Microbiology: Microbial Culture Handling, Staining Techniques, Antimicrobial Assays.
  • Biochemistry: Enzyme Assays, Protein Handling, Electrophoresis.
  • Immunology: Basic Immunological Techniques and Signaling Analysis.
- **Dry Lab & Computational:**
  • Computational & Systems Biology: Sequence alignment (BLAST), pathway enrichment analysis, network-based analysis, basic transcriptomics concepts, molecular docking (introductory), data modeling, and scientific programming (Python).
  • Software & Coding: Python (Pandas/NumPy for data analysis), MS Office, PubMed, NCBI Databases.
  • Specialized Logic: CRISPR/Cas9 gRNA Design (Theoretical/Award-winning).
  • Compute: NVIDIA RTX 4060 GPU; utilizing CUDA for accelerated biological data processing and model training.

Achievements & Awards

- GATE (Life Sciences – XL), 2025 — Qualified the Graduate Aptitude Test in Engineering with a score of 419, placing within the top percentile of candidates nationwide and demonstrating a high level of technical proficiency in core biological sciences.
- A+ Grade, Research Training Program — Rapture Biotech (2025)
- Second Prize, CRISPR Innovation Competition — St. Wilfred College, Jaipur (2021) Designed theoretical CRISPR/Cas9 gRNA optimization strategy (2nd Prize, CRISPR Innovation Competition)

Languages

- English (fluent), Hindi (native), German: A1 (Beginner/Learning)

Manuscripts In Preparation

- PTC518 (Votoplam) in Huntington's Disease: Review article on oral splicing modifiers targeting mutant huntingtin expression.
- CD40 Immunosomes: Review of immunosome-based approaches in immunotherapy.

References

- **Dr. Rakhi Sharma - Stani Memorial P.G. College, Jaipur (University of Rajasthan)**
  Associate Professor, Department of Zoology
  drrakhisharmazoology@gmail.com
- **Dr. Preeti Sharma - Nirwan University, Jaipur**
  Associate Professor, Department of Zoology
  preetibagra@gmail.com
- **Mr. Mayank Solanki - Rapture Biotech, Jaipur**
  Co-Director
  mayanksolanki0622@gmail.com