

# Garima Rana

+91-7015885164  
✉ garimarana1322@gmail.com  
🌐 garima1234-rana  
in linkedin.com/in/garima-rana  
Languages: English, Hindi (Fluent)

## Profile

M.Sc. Biotechnology student at J.C. Bose University of Science & Technology (YMCA) with solid academic grounding (B.Sc. Hons. Botany, Ramjas College, University of Delhi, CGPA: 8.7/10). Passionate about computational biology, bioinformatics, molecular diagnostics, and biomolecular structure/function. Hands-on experience across wet-lab techniques and bioinformatics workflows, with demonstrated abilities in research, analysis, and scientific communication.

## Education

- 2024 – 2026 **M.Sc. Biotechnology**, J.C. Bose University of Science & Technology, YMCA, Faridabad, Haryana
- 2020 – 2023 **B.Sc. (Hons.) Botany**, Ramjas College, University of Delhi, CGPA: 8.7/10
- Relevant coursework Cell Biology, Genetics, Biochemistry, Bioinformatics, Microbiology, Immunology, Computational Biology
- Lab training Hands-on training in media preparation, DNA extraction, PCR, gel electrophoresis, microbial culture handling

## Skills

- Programming / Analysis Python, R
- Bioinformatics Tools BLAST, FASTA, ExPASy, Motif Finder, MEGA-X (MEGA software)
- Wet-lab Techniques DNA extraction, PCR, STR profiling, molecular cloning, plasmid isolation, bacterial transformation, protein expression analysis, SDS-PAGE, Western blot
- Other MS Office, PowerPoint, MS Teams
- Languages English, Hindi (Fluent)

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## Academic Projects

- Nov 2024 – **Review Paper (Polyethylene-degrading enzymes)**, *J.C. Bose University of Science & Technology*  
May 2025
- Reviewed 8+ research papers on polyethylene-degrading enzymes under the mentorship of Dr. Ashima Sharma.
  - Performed an extensive literature survey focusing on enzyme characterization and comparative evaluation.
  - Gained understanding of analytical techniques such as electrophoresis, spectrophotometry, and enzyme kinetics through literature-based study.
  - Strengthened research skills: literature review, critical analysis, synthesis, scientific communication, and reporting.
- May 2025 – **Genome Analysis & Sequence Alignment Project (Mini-project — Bioinspire Her)**  
June 2025
- Retrieved 12+ gene sequences and performed multiple sequence alignment using BLAST, ClustalW, and MEGA-X.
  - Constructed 2 phylogenetic trees; annotated 7 motifs using ExPASy and Skylign; analyzed sequence databases.
  - Documented workflow and results on GitHub (includes 5 result figures) demonstrating skills in phylogenetics, genomics, and proteomics.
- Apr 2025 – **Short-Term Course: Research Paper Writing**, *IIS, Delhi*  
May 2025
- Completed a 1-month certified short-term course on research paper writing.
  - Learned research paper structure, reading strategies, citation styles, and referencing techniques.
  - Submitted a review paper assignment and received certification upon completion.

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## Industry Experience

- Jun 2025 – **Intern — DNA Division**, *Forensic Science Laboratory (FSL), Madhuban, Karnal*  
Jul 2025
- Worked on DNA extraction and analysis techniques during a 30-day project in the DNA division.
  - Gained hands-on experience with DNA extraction, PCR amplification, STR (DNA profiling), and quantification of DNA samples.
  - Analyzed DNA samples from 10+ biological specimens and compiled a detailed report under expert mentorship.
- Jun 2025 – **Intern — Functional Genomics & Bioinformatics**, *Institute of Home Economics, University of Delhi*  
Jul 2025
- Hands-on training in biological databases, sequence similarity search, multiple sequence alignments and phylogenetic analysis.
  - Performed genome assembly, annotation, variant detection, and comparative genomics using NGS datasets and variant-calling pipelines.
  - Gained experience in protein structure prediction, evaluation, molecular docking workflows, and computer-aided drug design.
  - Applied R/Python to analyze genomic data with a focus on recent bioinformatics applications in neurological disorders.

Jun 2024 – **Bioinformatics Programme Trainee**, *Ethical Edufabrica, Delhi*

- Jul 2024 ○ Completed AI-based bioinformatics training covering genomics and proteomics.
- Used tools such as BLAST, ClustalW, MEGA-X; worked with RNA-Seq and NGS pipelines.
- Gained experience in data interpretation, reporting, and scientific writing.

Jan 2023 – **Trainee (Molecular Biology)**, *Ramjas College, University of Delhi*

- Feb 2023 ○ Isolated and manipulated plasmid DNA from *E. coli* DH5 $\alpha$  for gene cloning and recombinant expression experiments.
- Performed transformations, colony screening, and PCR validation to confirm successful gene insertion.
- Executed SDS-PAGE and Western blotting to analyze and confirm target protein expression post-cloning.

## Certifications & Courses

Course / Certification	Institution / Organizer	Duration
Research Paper Writing	IIIS, Delhi	Apr 2025 – May 2025 (1 month)
Bioinformatics Programme (AI-based)	Ethical Edufabrica, Delhi	Jun 2024 – Jul 2024
Patent Laws (NPTEL)	IIT Madras	12-week online course
Hands-on Training on Patent Filing	Interlacia	Workshop

## Positions of Responsibility

- Led Subhash House (2019–2020): managed 10+ school-level events including quizzes, games and inter-house competitions.
- Coordinated 5+ festive activities (handmade rakhis, diyas, effigies) for cultural celebrations.
- Active member of Bloom Society, Ramjas College (2022–2023): contributed to 8+ events and editorial tasks.
- Attended NIPAM IP workshop (2023) with 100+ participants; gained insights into patents, copyrights, and IP protection.

## Online

GitHub [github.com/garima1234-rana](https://github.com/garima1234-rana)  
LinkedIn [linkedin.com/in/garima-rana](https://linkedin.com/in/garima-rana)

## References

Available upon request.