

Aayush Sharma

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Education

VIT Bhopal University, *B.Tech. in Bioengineering*
CGPA: 8.02/10.0

Bhopal, Madhya Pradesh
expected July 2026

Kanha Makhan Millennium School, *CBSE - Class XII*
CGPA: 9.40/10.0

Mathura, Uttar Pradesh
April 2021 – Feb 2022

Experience

Summer Intern

Lupin Ltd.

(Remote)

Mar 2025 – May 2025

- Evaluated the launch potential of 15+ novel drugs in the cardiovascular and diabetes pipeline by analyzing extensive Phase I-III clinical trial data, primary endpoints, and safety profiles to provide key strategic recommendations.
- Conducted a comprehensive medico-marketing and competitive intelligence analysis of Finerenone vs. Eplerenone, forecasting a 500 million dollar market potential for Finerenone by 2033, growing at a 15.3% CAGR.
- Developed a full-scale business model for a new digital health platform, creating a go-to-market strategy and financial plan with a projected INR 33.2 Crore first-year investment and a target of onboarding 150+ partners.

Technical Skills

Languages & Libraries: Python (Biopython, Pandas, NumPy, scikit-learn), R (Bioconductor), SQL, MATLAB

Bioinformatics Tools: BLAST, MEGA12, MEGAN6, PyMOL, Py3Dmol, UCSC Genome Browser

Machine Learning & AI: TensorFlow, AlphaFold 3 (Basics), Transfer Learning (VGG16), Flask, Streamlit

Databases & Platforms: MySQL, MS Excel, PDB, NCBI, UniProt, KEGG, Ensembl, Git, Google Colab

Projects

AminoSphere - Protein explorer

[LINK](#) - *Sept 2025*

- Deployed a Streamlit web app for real-time 3D protein prediction (up to 1000 residues) using Meta AI's ESMFold with 360° visualization, confidence scoring pLDDT (0-100), mutation analysis, and 70% modeling time reduction.
- Tools: Python, Streamlit, py3Dmol, Meta AI ESMFold

Neuro-Scan AI - Diagnostic tool

[LINK](#) - *Aug 2025*

- Engineered an AI-powered web application for brain tumor detection using TensorFlow, VGG16 transfer learning, achieving 97% precision, 100% precision, Flask processing, and 128x128 image preprocessing.
- Tools: Python, TensorFlow, Flask, VGG16

Stillpoint - Personal journal

[LINK](#) - *July 2025*

- Built a mindful journaling web application using React 18, TypeScript, Tailwind CSS with local storage, Recharts analytics visualization, achieving 90+ Lighthouse performance scores, and a responsive design.
- Tools: React, TypeScript, Tailwind CSS, Vite

Activities

Siemens Immersive Design Challenge

(Remote)

3-month virtual hackathon

Jan 2025 – Mar 2025

- Advanced to Semi-Finals, only 40 out of 250+ teams in this international innovation competition. We designed a Bionic Arm with Haptic Technology based on TENG and reduced the cycle time by 35-40%.
- Reduced production costs to INR 12-18 Lakhs for 500-700 units/year, supporting revenue target of INR 60-125 Cr.

Innovative Design and Entrepreneurship

Indore, Madhya Pradesh

5-days bootcamp

Jan 2024

- Secured as a 2nd Runner-Up among 15+ teams in a national entrepreneurship pitching session. Prepared a business plan to scale a TRL-3 biomimetic prototype into a B2G venture and created a licensing-based B2G revenue model.

Smart India Hackathon

Jalandhar, Punjab

6-days hackathon

Dec 2023

- Reached the Grand Finalist stage in the premier national innovation competition. We engineered a biomimetic membrane that generates 2.5 L/h/m² (240 L/day output) with validated droplet simulations of 200 µL/hr per 0.8 cm².
- Planned a scalable rural water solution that costs INR 10K-25K per unit through innovative membrane technology.