

# Rachit Gupta

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## EDUCATION

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### Manipal University Jaipur

Bachelor of Technology in Computer Science (CGPA: 9.25)

Jaipur, Rajasthan

Aug. 2024 – May 2028

## RESEARCH EXPERIENCE

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### Undergraduate Researcher

Manipal University Jaipur

Aug. 2025 – Present

Jaipur, IN

- **Patent Application (In Process):** Co-invented a **Sociolinguistic Bias Detection System** (Project: Bias Mirror) for automated analysis of gender, political, racial, and religious biases.
- Fine-tuned an **XLM-R Transformer** model on a custom multi-bias dataset, implementing specific tokenization pipelines for Hindi-English code-mixed text.
- Collaborated with Prof. Babita Tiwari to architect a scalable inference pipeline, achieving high-accuracy multi-class classification for low-resource Indian languages.

## PROJECTS

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### Bias Mirror | *FastAPI, React, XLM-R, Hugging Face*

Oct. 2025 – Dec. 2025

- Built a full-stack AI platform to detect sociolinguistic biases (gender, race, religion) using a fine-tuned XLM-R transformer model.
- Architected a custom deployment pipeline that decoupled a 1.1GB model on Hugging Face Model Hub from a FastAPI backend on Hugging Face Spaces to bypass free-tier memory limits.
- Developed a responsive React frontend with Vite, featuring real-time data visualization via Chart.js to map bias intensity scores.

### ExpenseNova | *MERN Stack, JWT, Recharts, Chart.js, Vercel*

Nov. 2025 – Jan. 2026

- Engineered a gamified financial dashboard using the MERN stack (MongoDB, Express, React, Node.js) featuring a "Gravity System" that visualizes expenses as orbiting nodes based on cost intensity.
- Implemented "Shield Systems" (Budgeting) with real-time progress bars and persistent settings stored in MongoDB via a custom REST API.
- Secured user data with full authentication (JWT & bcrypt), protected routes, and "Environment Agnostic" configuration for seamless deployment across Localhost, Render, and Vercel.
- Optimized mobile responsiveness using complex CSS Grid media queries and integrated Chart.js for interactive spending distribution analysis.

## TECHNICAL SKILLS

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**Languages:** Java, Python, JavaScript, SQL, C, HTML/CSS

**Frameworks/Libraries:** React, Node.js, Express.js, Pandas, NumPy, Chart.js

**Tools & Platforms:** Git, GitHub, Kaggle, Google Colab, Vercel, VS Code, Railway

## CERTIFICATIONS & COURSEWORK

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**Relevant Coursework:** Object Oriented Programming (Java), Database Management Systems (RDBMS), Operating Systems, Design & Analysis of Algorithms.

**Certifications:** Data Structures & Algorithms (Apna College), Google Data Analytics (Coursera - Pursuing).