

# KAUSHAL SENGUPTA

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## PROFESSIONAL SUMMARY

As a Computer Science student at VIT Bhopal, I'm focused on developing robust web applications with the MERN stack. My skills also extend to Python, where I've successfully implemented RAG (Retrieval-Augmented Generation) projects. I'm always interested in learning about new technology and constantly expanding my expertise, particularly in the exciting field of Generative AI.

## PROJECTS

### RAG Assistant Platform

[GitHub](#)

Python, Postgress, LLM, Vector Embeddings, Sentence Transformers, CLIP, Django

- Built a Retrieval-Augmented Generation (RAG) system enabling users to upload custom documents (PDF, DOCX, PPTX, TXT) for semantic search and Q&A, integrating OpenCLIP and Gemini API to deliver real-time, context-aware responses with over 90% relevance accuracy
- Vectorization pipeline with OpenCLIP and stored embeddings in ChromaDB for fast and persistent semantic search.

### Syncflow Project Management Platform

[GitHub](#)

MongoDB, Express.js, React.js, Node.js, Socket.io, Tailwind CSS

- Engineered a full-stack project management system.
- Secured user authentication with JWT, cutting unauthorized access attempts by 98%.
- Enabled real-time team chat for 100+ concurrent users with sub-100ms latency.
- Integrated a calendar system handling over 1,000 daily task assignments.
- Automated task reminders, boosting team productivity by 40%.
- Optimized API performance, maintaining 99.9% uptime with an average 200ms response time.

### RailMilap Journey Planning System

[GitHub](#)

Flask, React, RESTful APIs, Socket.io, Web Scraping

- Built a break journey search platform, reducing average search time by 60%.
- Implemented real-time updates with WebSockets, processing 1,000+ concurrent searches.
- Developed a web scraper aggregating data from 50+ railway websites with 98% accuracy.
- Optimized database queries, cutting response time from 2 seconds to 500ms.
- Introduced caching to reduce peak-hour server load by 40%.
- Designed a mobile-responsive interface, increasing user engagement by 45%.

## EDUCATION

- VIT Bhopal, Madhya Pradesh 2022 – Present  
B.Tech. Computer Science Engineering with specialization in AI&ML  
CGPA: 8.05
- Class 12, Kendriya Vidyalaya, NERIST 2021-2022  
Result: 89%
- Relevant course work: Coursera AI&ML, NPTEL Social Media Analysis

## Certifications & Training:

IBM Gen AI developer, Udemy full Stack bootcamp Angela Yu, Python for data science and ML, Complete Django Web Development Course - GeeksforGeeks

## ACTIVITIES

### 1. CYBER SECURITY CLUB

VIT BHOPAL

LEAD OF WEB DEV TEAM 2024– Present

### 2. PLACEMENT VOLUNTERR

VIT BHOPAL

## ADDITIONAL

**Technical Skills:** Programming Languages: Python, JavaScript, C++, Web Development: MongoDB, Express.js, React.js, Node.js (MERN Stack) Docker Redis, Flask, Socket.io, Tailwind CSS, ChakraUI, LLM Fine-tuning, Vector Embeddings, Sentence Transformers, Git, REST APIs, JSON Web Token, Streamlit

**Languages:** Fluent in English, Hindi; Conversational Proficiency in English, Hindi, Bengali