Social Media RAG with Trend Analysis

Problem Statement

Develop a RAG system that processes social media posts, identifies trending topics, and provides contextual information about viral content, memes, and social movements.

Key Requirements

- Social media content ingestion from multiple platforms

- Trending topic identification and tracking

- Viral content analysis and pattern recognition

- Social movement and cultural context understanding

- Real-time trend monitoring and alerting

Technical Challenges

- Multi-platform API integration and rate limiting

- Trend detection algorithms and threshold tuning

- Content moderation and filtering

- Cultural context and sentiment analysis

- Scalable real-time data processing

Deliverables

A fully working deployed demo (e.g., via Streamlit, Gradio, or HuggingFace Spaces)

A well-structured GitHub repository with clean code, documentation, and a README.md explaining the system

A public link to the working application

Project Scope & Guidelines

Each RAG project will focus on a specific domain such as law, healthcare, finance, education, or multimodal data processing (text, image, audio, video).

Students must:

- Use appropriate embedding models (e.g., OpenAI, HuggingFace Sentence Transformers)

- Implement retrieval using vector databases like **Chroma**, **Pinecone**, or **Weaviate**

- Design effective **chunking strategies** tailored to the data type

- Provide meaningful **retrieval-based responses** using context-aware generation

- Ensure their system has **clear UX**, **logical data flow**, and **relevance scoring**

- Evaluate with basic metrics (e.g., retrieval accuracy, latency, or RAGAS)

Submission Requirements

- GitHub repo link

- Deployed app link

- **Deadline: 3 days from the assigned day**