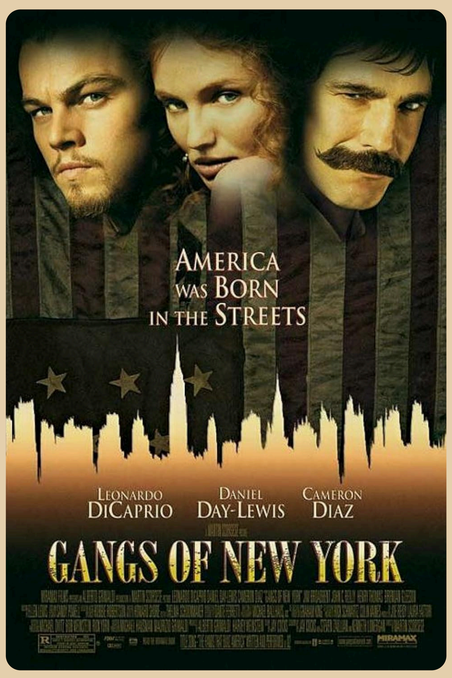
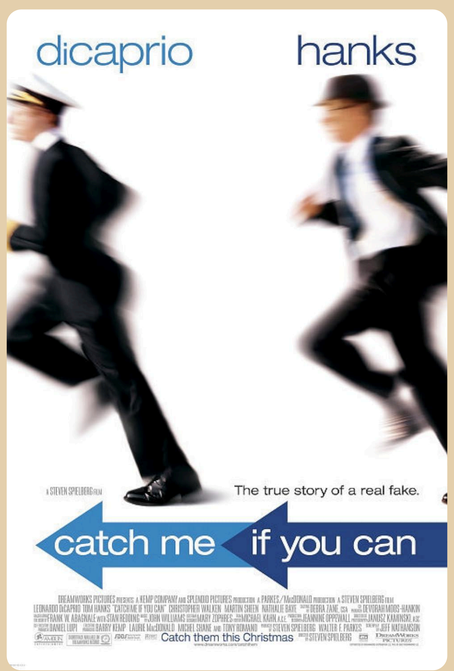
Ragopedia

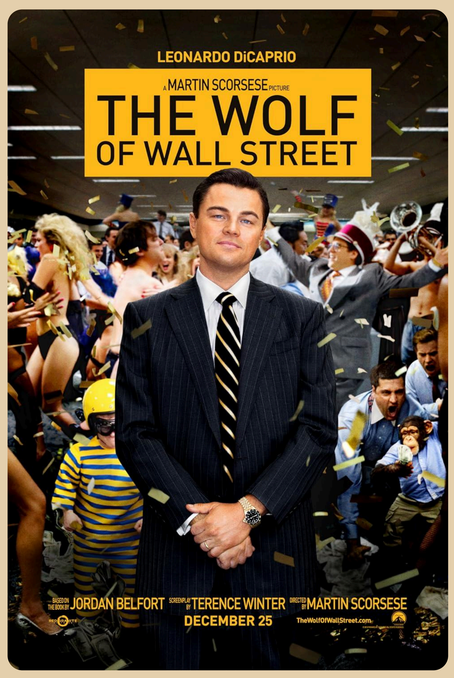
Users often struggle to find relevant movies due to overwhelming options and limited recommendation systems. Ragopedia is an AI-powered movie discovery platform using Retrieval-Augmented Generation (RAG) to deliver personalized suggestions and simplify movie list creation and exploration.

List the best-rated crime movies featuring Leonardo DiCaprio.

Based on your request, here are some of the best-rated crime movies featuring Leonardo DiCaprio:







Natural Language Query Input

The user types a movie-related question or request (e.g., “Show me underrated sci-fi movies from the 90s”) via the React-based interface.

1

Text-to-SQL Translation

The query is sent to a LLaMA-based LLM, which converts the natural language input into a structured SQL query using prompt engineering and retrieval techniques.

2

SQL Execution (MySQL Database Query)

The generated SQL query is executed on the MySQL database. It filters and fetches metadata of relevant movies based on attributes like genre, year, rating, or popularity.

3

Description Embedding (SentenceTransformers)

Movie descriptions are embedded using the intfloat/e5-large-v2 model. If .pkl and .index files are missing, embeddings are generated for the full database; otherwise, only for the filtered movies are used.

4

Semantic Search (FAISS Vector Index)

These embeddings are compared against a pre-built FAISS vector index of all movie descriptions using cosine similarity to retrieve semantically similar or contextually relevant films.

5

Context Construction (Top-K Results)

A set of the top-ranked similar movies is selected. Their metadata (title, year, genre) and descriptions are formatted into a context string suitable for LLM input.

6

Conversational Answer Generation (LLaMA)

Using the original query and the constructed movie context, the LLaMA model generates a natural language response that includes personalized recommendations or summaries.

7

Response Rendering (Frontend Display)

The final answer is displayed in the React frontend as a user-friendly conversational reply, optionally with clickable movie cards, images, and list-saving options.

8

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