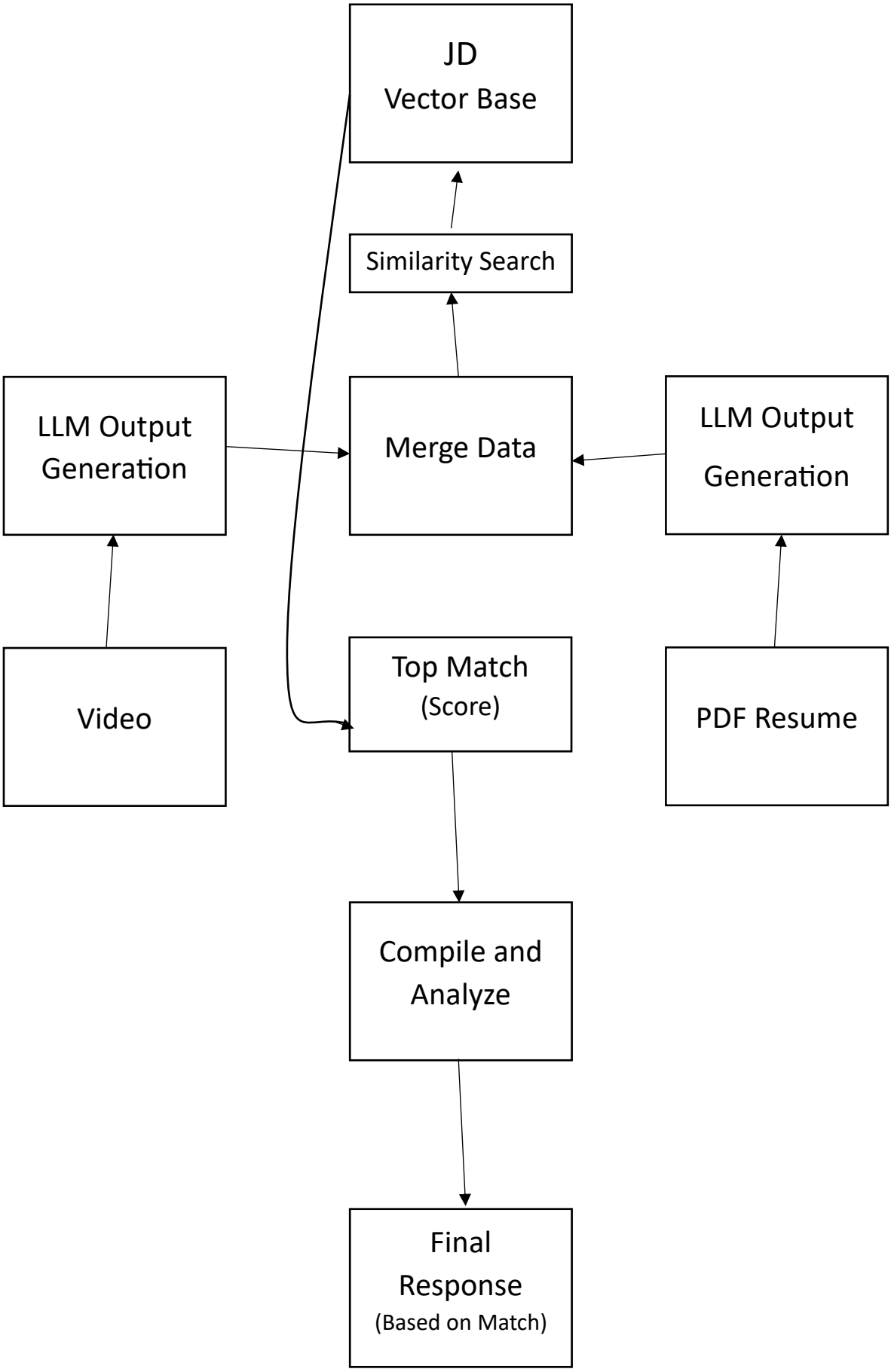
Architecture and System Flow

This tool follows a structured architecture to ensure effective matching of job descriptions and candidate data:

1. **Input and Preprocessing**:
    - The application takes three main inputs: job descriptions, resumes, and videos.
    - Each input is processed using helper functions to extract text (for PDF/DOCX) or structured content (for videos).
2. **LLM Analysis**:
    - **Resume and Video Analysis**: The resume and video data are sent to Google Generative AI (GenAI) for processing. GenAI returns structured information (e.g., skills, qualifications, experience) which is then used in the matching process.
    - **Schemas** (CV, Video, Evaluate) define the expected structured response from the LLM.
3. **Vectorization and Similarity Search**:
    - **Pinecone Vector Store**: Job descriptions are stored in a Pinecone vector store. Once candidate data is processed, a similarity search is conducted between the candidate's profile and the job descriptions to find the best match.
    - **Top Match Selection**: The tool identifies the job description with the highest similarity score as the best match.
4. **Data Merge and Analysis**:
    - The LLM-generated outputs from the resume and video are merged and compared with the top-matching job description.
    - **Final Evaluation**: A structured response is generated, summarizing the candidate's alignment with the job and providing recommendations for areas of improvement.
5. **Output**:
    - The final result, including the best match score, detailed alignment analysis, and recommendations, is displayed in a user-friendly format.


JD
Vector Base
Similarity Search
LLM Output
Generation
Merge Data
LLM Output
Generation
Video
Top Match
(Score)
PDF Resume
Compile and
Analyze
Final
Response
(Based on Match)

Explanation:

- **JD Vector Base:** This is where all job descriptions are stored in a vectorized format.
- **Similarity Search:** The system performs a similarity search between the JD vector base and the combined data from video and PDF resume.
- **Top Match Selection:** The best matching job description is selected based on the similarity search.
- **Data Input (Video and PDF Resume):** Video and PDF resume data are passed through an LLM (Large Language Model) to generate structured data.
- **Merge Data:** The structured data from the video and PDF resume is merged.
- **Compile & Analyze:** The merged data and the top-matched job description are analyzed to evaluate compatibility.
- **Final Response:** A final report is generated, indicating the quality of the match between the candidate and the job description.