

# VIDEO INDEXING

## STEP 4: METADATA CONSOLIDATION



**Gather and structure metadata to describe video segments for indexing.**

**Metadata includes:**

**Technical:** File format, resolution, duration.

**Descriptive:** Keywords (e.g., "dog," "park"), sentiment (e.g., positive).



Techniques Used



# TECHNICAL METADATA EXTRACTION



## TOOL

FFmpeg (ffprobe) to extract file details.



## HOW

Parses video file to get format (e.g., MP4), resolution (e.g., 1920x1080), duration.



## WHY

Enables fast lookup of segments (e.g., “dog” returns segment IDs).



Techniques Used



# KEYWORD EXTRACTION AND CLEANING



**TOOL**

scikit-learn's TF-IDF Vectorizer.



**HOW**

Identifies key words from transcripts and OCR text, excluding stopwords.



**WHY**

Creates clean, meaningful keywords for search (e.g., "dog," "park").



Techniques Used



# SENTIMENT ANALYSIS



**TOOL**

Transformers (DistilBERT).



**HOW**

Analyzes text to classify sentiment (positive, negative, neutral).



**WHY**

Adds emotional context (e.g., "positive" for happy scenes).



Techniques Used



# METADATA STRUCTURING



**TOOL**

Python's json module.

**HOW**

Formats metadata into a JSON schema with segment IDs, timestamps, and metadata.



**WHY**

Ensures compatibility with indexing tools like Elasticsearch.

## Importance of Step 4

