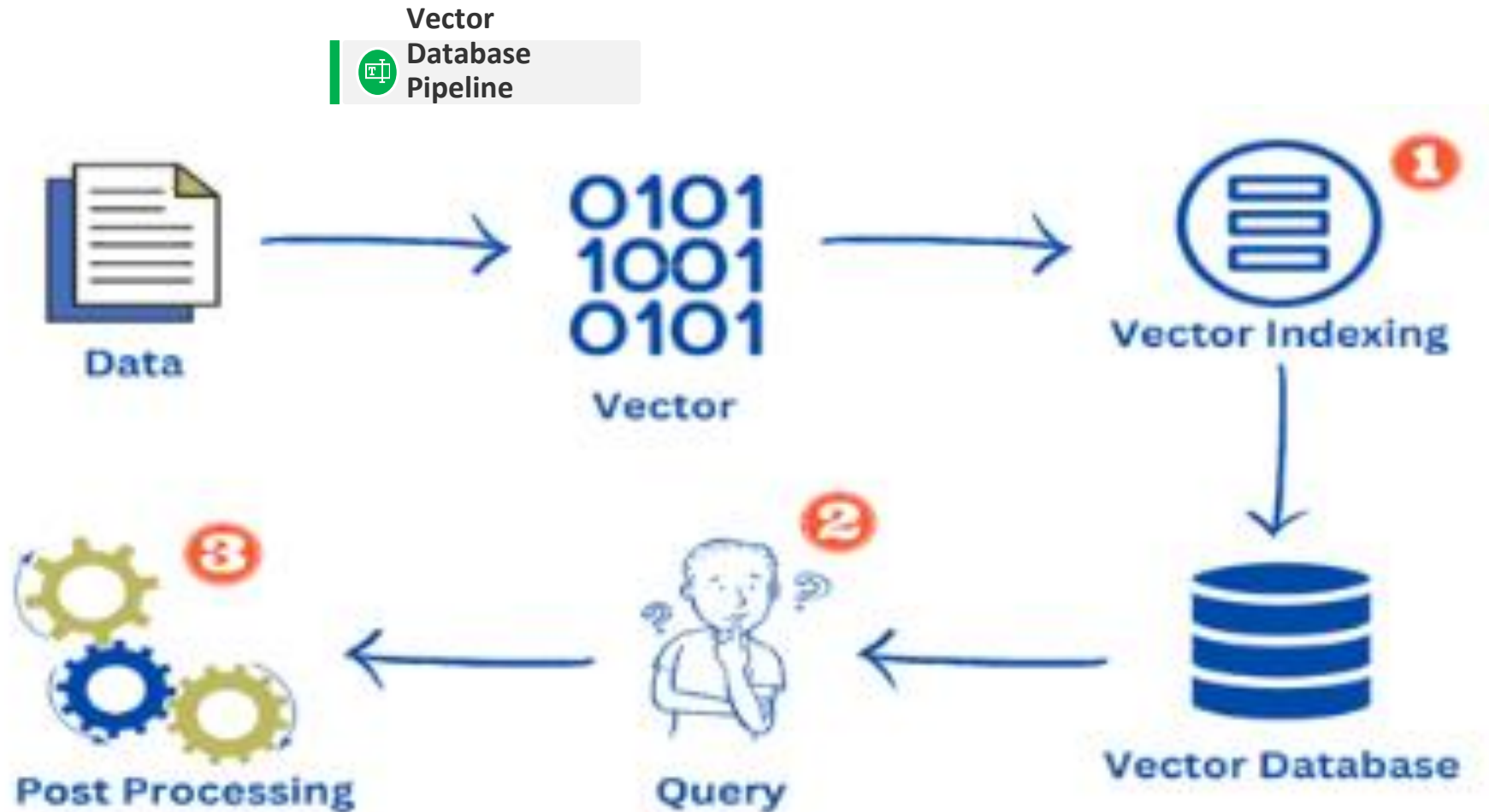




# Fashion Product Recommender using Generative AI

# VECTOR DATABASE FOUNDATION



# TEXT SIMILARITY

## What is Text Similarity?

Text similarity measures the degree of resemblance or agreement between two or more texts.

## Methods:

Cosine similarity is a measure that calculates the cosine of the angle between

two vectors, providing a numerical value indicating how similar they are in

direction regardless of their magnitudes

**nlk (Natural Language Toolkit)** **scikit-learn**, **Spacy**:



```
from sentence_transformers import SentenceTransformer  
model = SentenceTransformer('sentence-transformers/all-MiniLM-L6-v2')
```

```
sentences = [  
    "That is a very happy Person",  
    "That is a Happy Dog",  
    "Today is a sunny day"  
]  
embeddings = model.encode(sentences)
```

That is a happy dog	0.833
That is a very happy person	0.985
Today is a sunny day	0.755

# IMAGE SIMILARITY

## What is Image Similarity?

Image Similarity in the context of GenAI refers to the comparison of

visual content to determine how similar or dissimilar two images are.

### Methods:

The high-dimensional pixel space of images (e.g., 224 x 224 x 3) into a

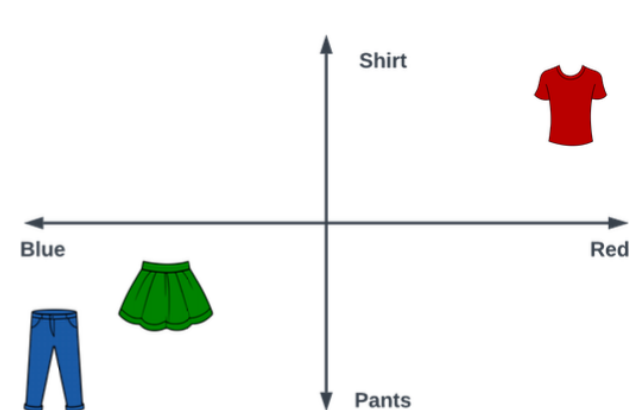
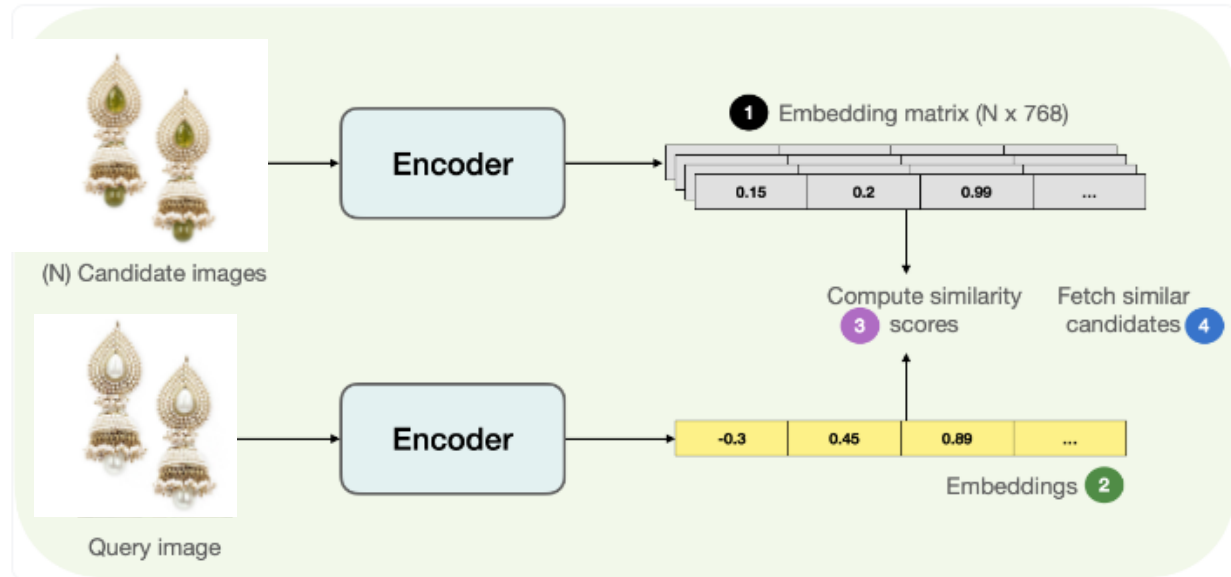
lower-dimensional vector (e.g., 768 dimensions).

Cosine similarity measures the cosine of the angle between

two Images projected in a multi-dimensional space

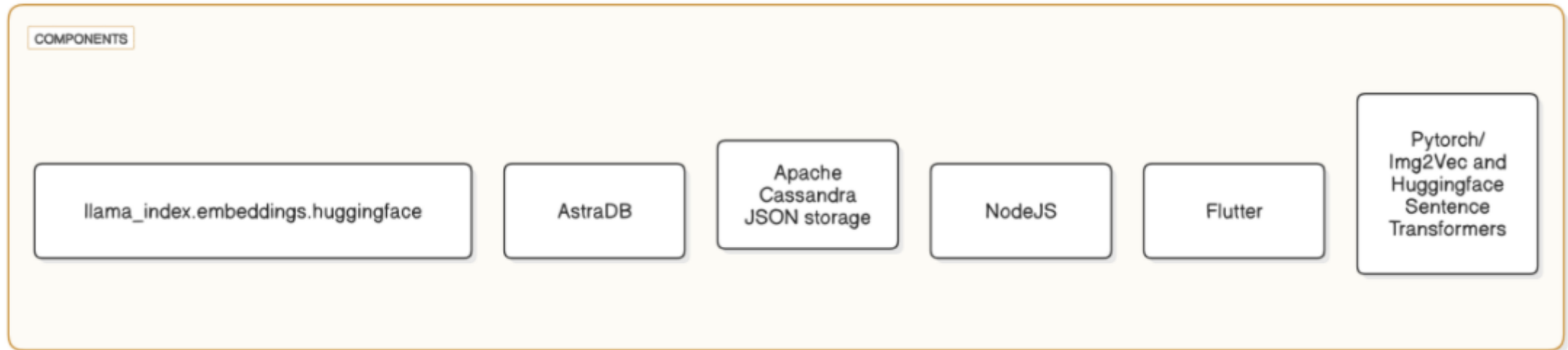
Python **Packages for Image Similarity:**

**Hugging Face**

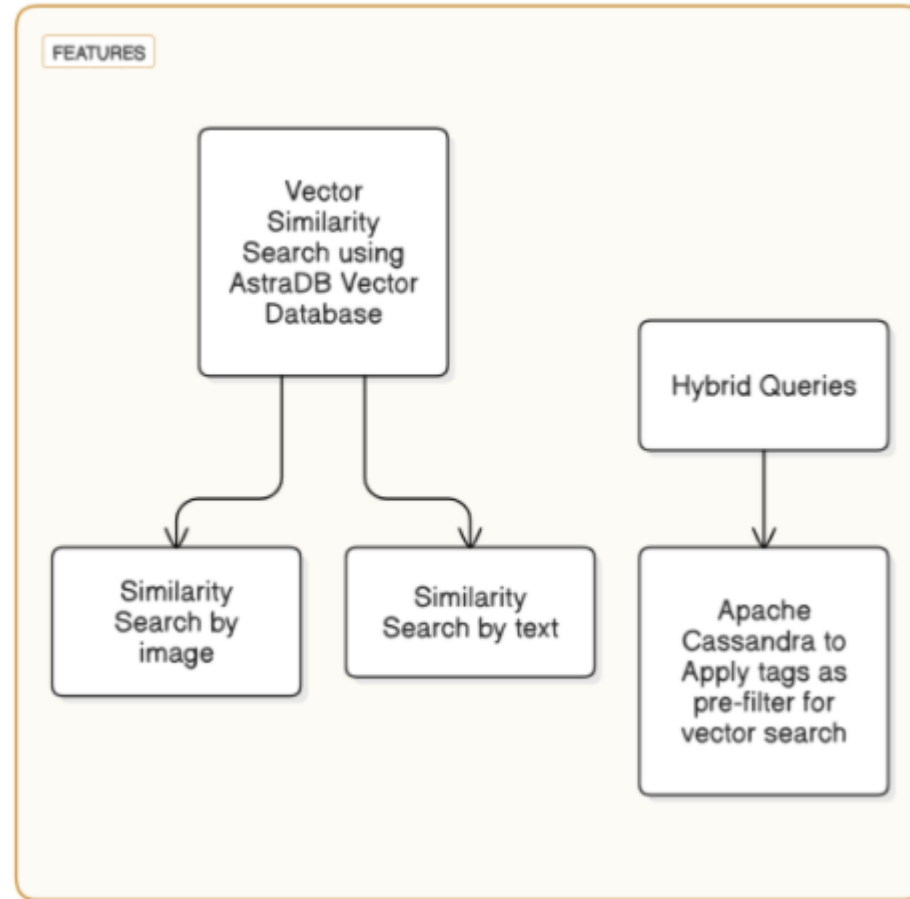


# Fashion Product Finder Components

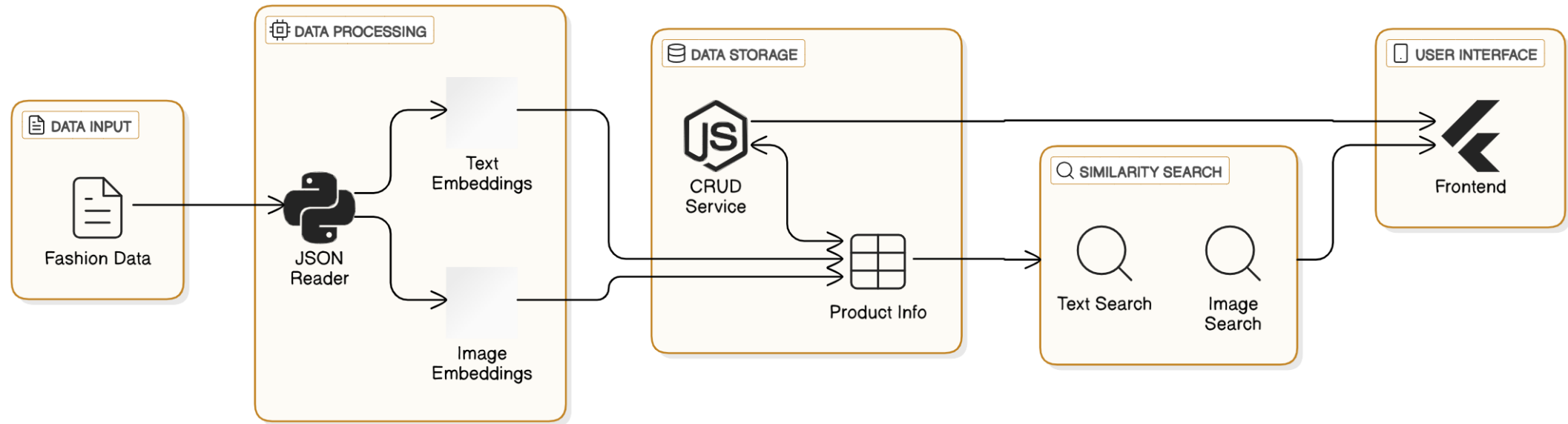
---



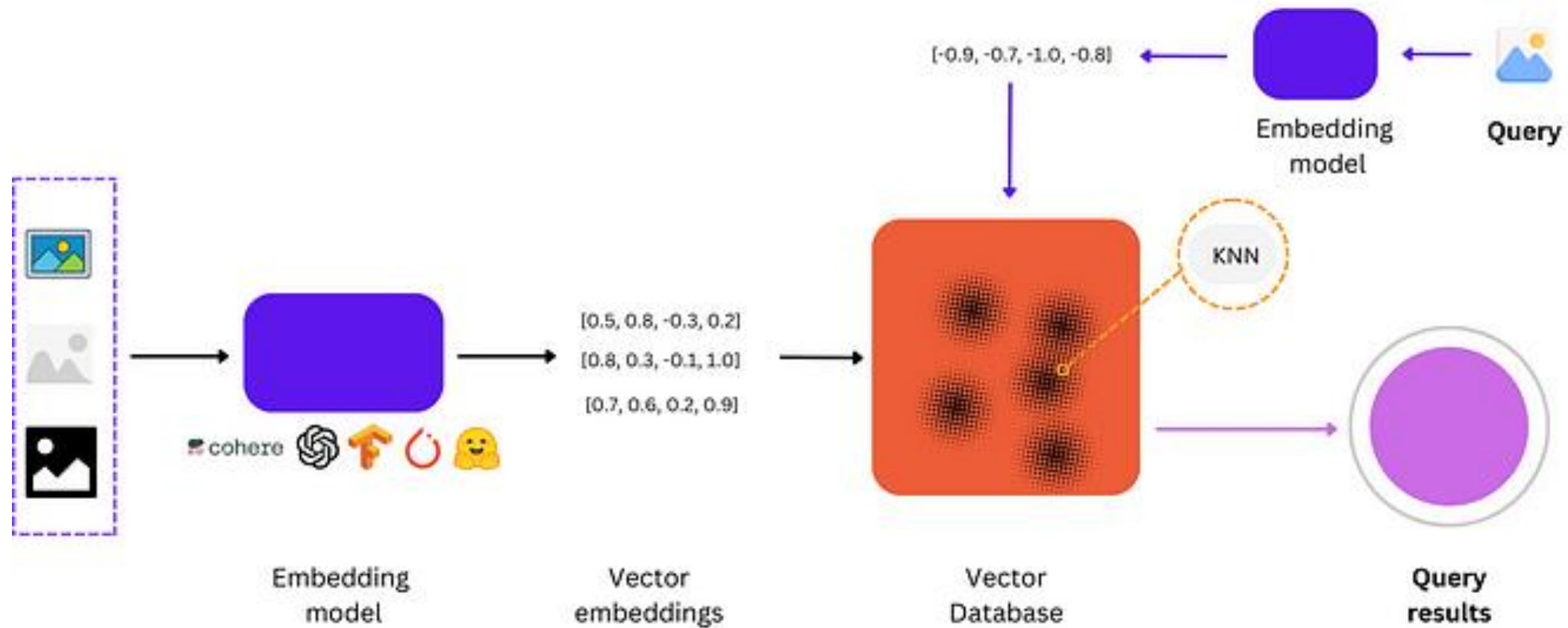
# Fashion Product Finder Features



# Solution Architecture



# Implementation





# GenAI Product Catalog – Similar/Visual Search

- Given a query image, find the Top K most "visually" similar in the catalogue
- [View similar products by Image](#)
- Potentially expand the number of models per product



U.S. Polo Assn. Men Striped Red Shirt

**View Similar:**

[By Text](#) [By Image](#) 1.00


Search for similar products by text



U.S. Polo Assn. Men Striped Red Shirt

**View Similar:**

[By Text](#) [By Image](#) 1.00



U.S. Polo Assn. Men Check Red Shirt

**View Similar:**

[By Text](#) [By Image](#) 0.96



U.S. Polo Assn. Men Check Navy Blue Shirt

**View Similar:**


[By Text](#) [By Image](#) 0.96



U.S. Polo Assn. Men Check Green Shirt

**View Similar:**

[By Text](#) [By Image](#) 0.95



U.S. Polo Assn. Men Striped Red Shirt

**View Similar:**

[By Text](#) [By Image](#)



Proline Men Blue Shorts

**View Similar:**

[By Text](#) [By Image](#)



Puma Men Fine Striped Blue T-shirt

**View Similar:**

[By Text](#) [By Image](#)



U.S. Polo Assn. Men Striped Red Shirt

**View Similar:**

[By Text](#) [By Image](#) 1.00

Search for similar products by image



U.S. Polo Assn. Men Striped Red Shirt

**View Similar:**


[By Text](#) [By Image](#) 1.00



Indigo Nation Men Price catch Red White Shirts

**View Similar:**

[By Text](#) [By Image](#) 0.96



U.S. Polo Assn. Men Striped Blue Shirt

**View Similar:**

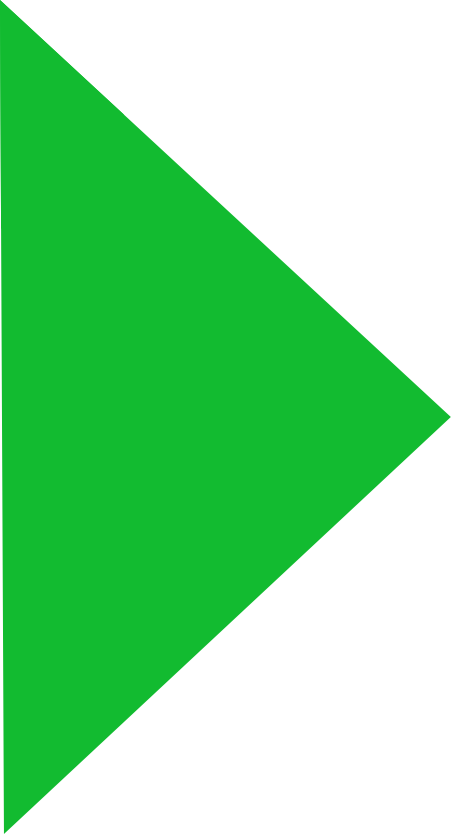
[By Text](#) [By Image](#) 0.95



Indigo Nation Men Price catch Blue White Shirts

**View Similar:**

[By Text](#) [By Image](#) 0.95



**Thank You**