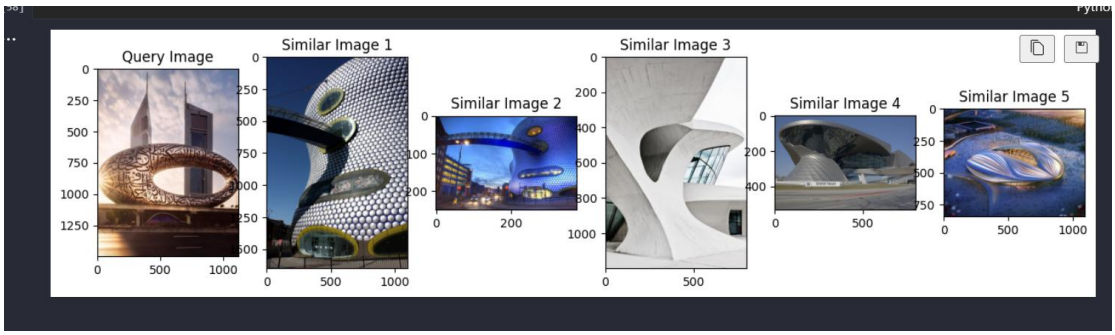
Task 3: Image Searching in Vector Database

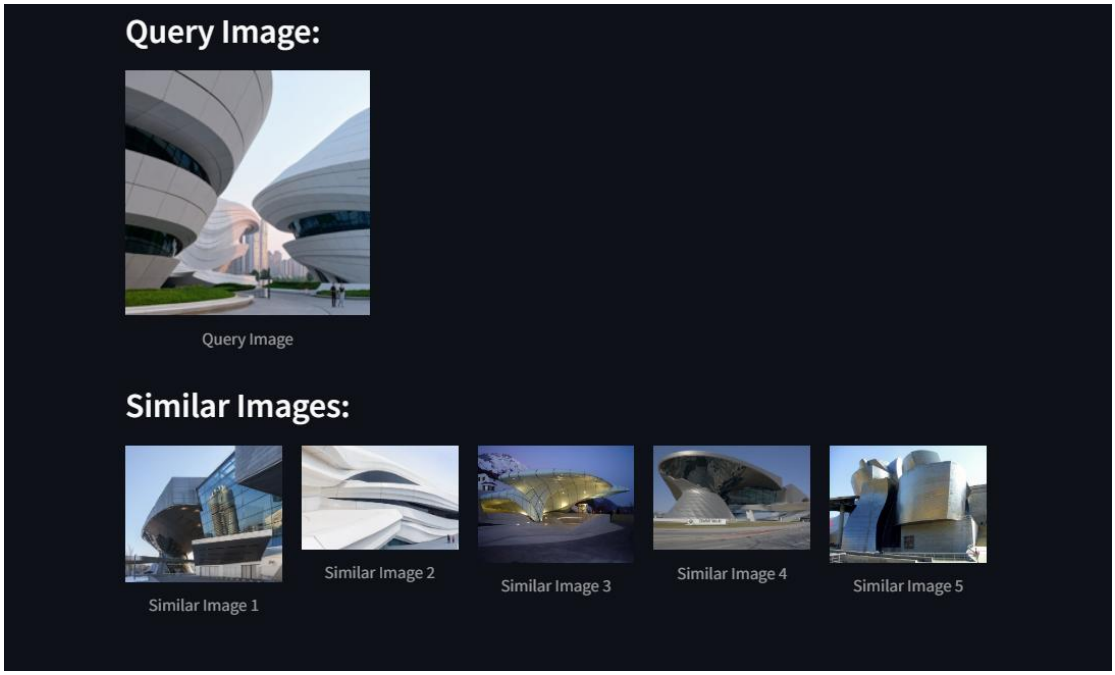
For this task I used Architectural Styles Periods Dataset that contains 12.3k+ images of architecture organized into 9 different categories based on time periods from Kaggle and VGG pretrained model to get the features of each image in the dataset and storing them into a numpy file so we can use it to find the cosine similarity between the images stored in the database and the uploaded image in the production step using Streamlit application.

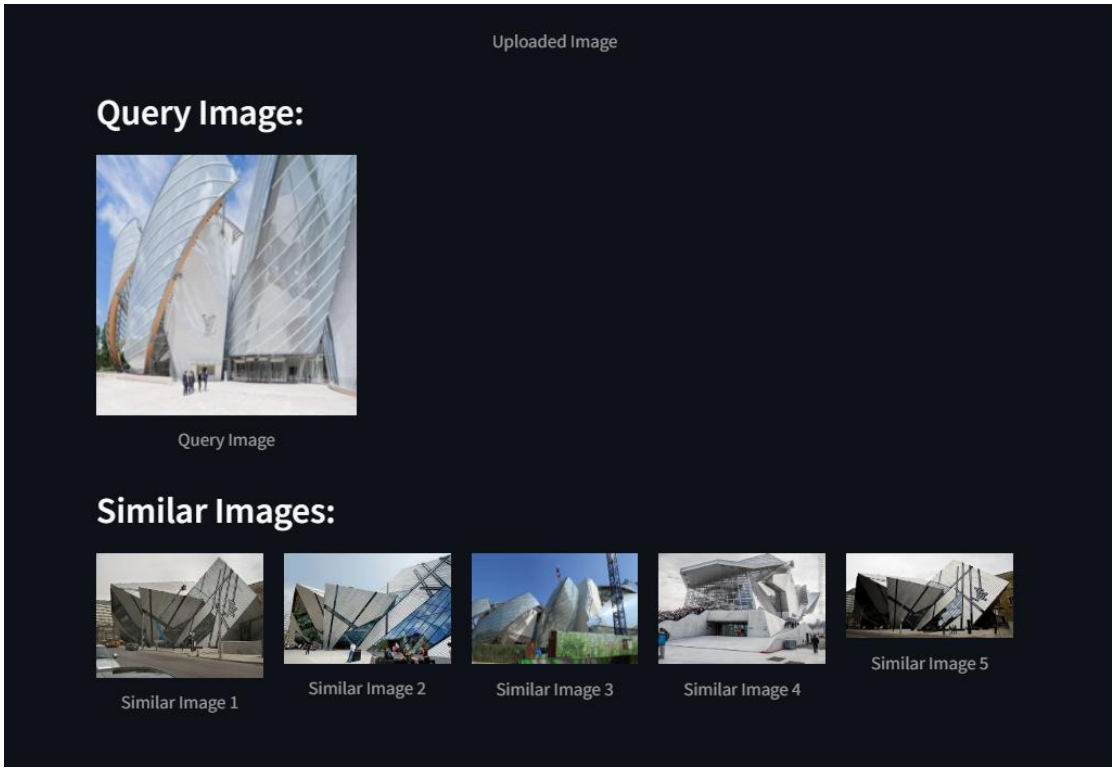
Using VGG pretrained model guarntee me a good results as it was so suitable for my small dataset to get the features for them as it's a simple model to use , so I didn't use any other pretrained models than it because they contain of complex architecture.

This is the results after training the model :



The results of the production Streamlit app :





Query Image:

Query Image

Similar Images:

Similar Image 1

Similar Image 2

Similar Image 3

Similar Image 4

Similar Image 5

Query Image:

Query Image

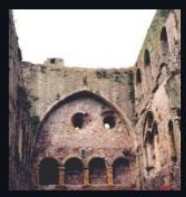
Similar Images:

Similar Image 1

Similar Image 2

Similar Image 3

Similar Image 4



Similar Image 5

Resources :

1. Dataset used for training Architectural Styles Periods Dataset (kaggle.com)
2. Dataset used for testing Architects Dataset (kaggle.com)
3. Image Based Product Recommendation System | by Zaki Mustafa | Medium
4. How create Image Recomendation system | by Bernardo Caldas | Analytics Vidhya | Medium