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Advanced Reverse Image Search and Profile Creation using Machine Learning

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Abstract: *The Reverse image search is most widely used image search engine due to its extensive database that contains billions of images uploaded over the web. It is best to use the image search when your aim is to find identical images against your queried image. The reverse image search by image is idle option for people getting down similar images in different quality, size, or formats. This online facility leads us to explore image search results with a single click. A convolutional neural network is a type of artificial neural network used for image processing.*

Keywords: Reverse image search

I. INTRODUCTION

An Reverse image search is the best image searching method which gives us the similar or altered copies of images. The main aim of this image search is to give a identical images with respect to the queried image. CNN is the powerful machine learning algorithm which is used for image processing. KNN is a classification and clustering algorithm used to get the data points by finding the most common class among k-closest examples. SVM is the algorithm that can be used for classification of images and regression.

II. PROBLEM IDENTICATION

The reverse image search tool on our website is giving options to conduct an Reverse image search. This advanced image retrieval tool isn't just limited to only one way of performing you can do it by:

- Entering image URL
- Uploading an image

Image search (sometimes called reverse image search) is a tool, where given an image as a query, a duplicate or similar image is returned as a response. The technology driving this search engine is called computer vision, and advancements in this field are giving way to some compelling product features. One important application within content based image retrieval is the so called "reverse image search".

Search Engine

- Discover information about the image
- Find better quality or bigger sizes of the same image

How it works: The reverse image search engine can locate web pages that contain information about a specific image.

It can also find exact or altered copies of image on the internet.

III. METHODOLOGY

Steps involved to generate the abstraction based summary

- **STEP 1:** Download the image dataset.
- **STEP 2:** Feature extraction from image database.
- **STEP 3:** Insert the query image and feature extraction.
- **STEP 4:** Calculate the similarities with all the images.
- **STEP 5:** Retrieve the most similar image result.

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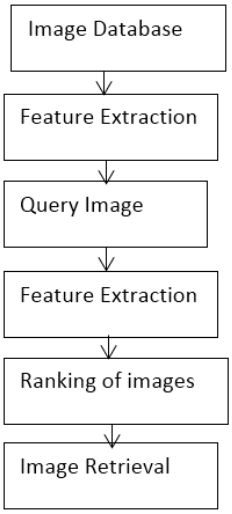

Figure 1: Image Retrieval Process

IV. IMPLEMENTATION

The pseudo code of a Advanced Reverse Image Search and Profile Creation

4.1 Modules

1. Data Collection
2. Pre-processing of data
3. Feature extraction
4. Image Retrieval

A. Module Description

1. **Data Collection:** In this module we are collecting the image dataset. Collecting the data for training the ML model is the basic step in the machine learning pipeline. We are training more than 500 images in training set.
2. **Data preprocessing**: In image mining the mining is related with large collection of data with high resolution, dimensions and multiple features. During analyzing the data the cost of time and space are relatively very high. Dealing with large set of data there exist some problem.

B. Pseudo Code

1. Input the image dataset.
2. Read Image.
3. Normalize the image.
4. Extract features from queried image.

C. Extracting Feature

There are key points that will be used to express the data of image, generally features texture, color, edge, shape. For better mining result, it is necessary to meet features. Here some of the main features which is very important for image mining, features are color, edge, textures.

Pseudo Code:

```
def extract(self, img):
img = img.resize((224, 224
img = img.convert('RGB')
```

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```
x = image.img_to_array(img
x = np.expand_dims(x, axis=0
x = preprocess_input(x)
feature = self.model.predict(x)[0]
return feature / np.linalg.norm(feature)
```

D. Image Retrieval

An image retrieval system is used for browsing, searching and retrieving images from a large database of digital images.

Pseudo Code:

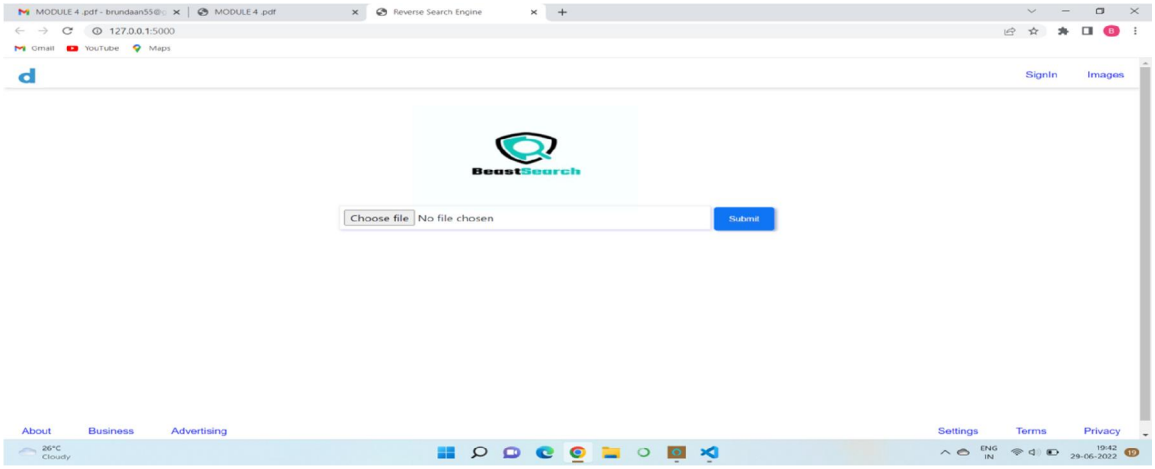
```
img = Image.open(file.stream)
uploaded_img_path = "static/uploaded/" + datetime.now().isoformat().replace(":", ".") + "_" + file.filename
img.save(uploaded_img_pathreturn summary
```

V. TESING

C	TEST CASE	EXPECTED OUTPUT	OBTAINED OUTPUT	RESULT
1	User input image.	The image is read and image is loaded accordingly.	The image is read and image is loaded accordingly.	Pass
2	Preprocess	It removes unwanted image format.	It removes unwanted image format.	Pass
3	Feature extraction	It extracts features.	It extracts features.	Pass
4	To determine the image in datasets.	The algorithm should predict the images as per the data collected in the database.	The algorithm should predict the images as per the data collected in the database.	Pass
5	Image retrieval	Images are retrieved from database.	Images are retrieved from database.	Pass

VI. RESULTS

- The Reverse image search technology offers benefits for the administration and use of digital image repositories.
- It makes the user to get output easily.
- It gives exact or similar copies of images.



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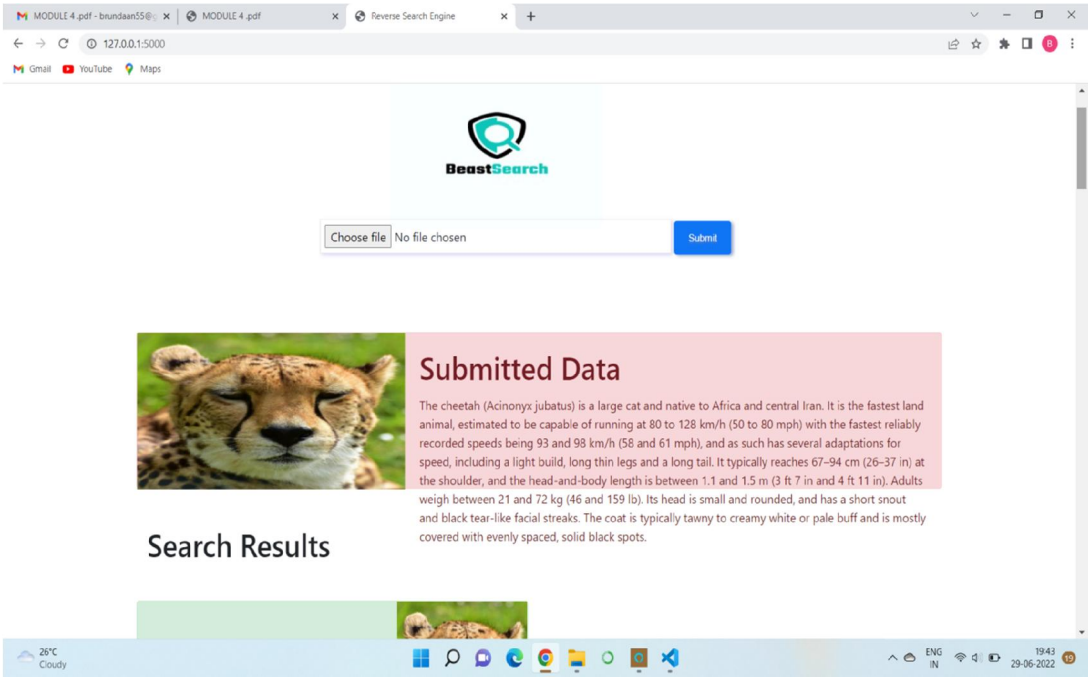

REFERENCES

[1]. Hu Min and Yang Shuangyuan .“ Overview of Image Mining Research",The 5th International Conference on Computer Science Education Hefei, China. August 2427, 2010.

[2]. Chang S.K. and Hsu A., Image information systems: where do we go from here? IEEE Trans. On Knowledge and Data Engineering, 5(5), 431-442(1992) .

[3]. P. S. Hiremath, JagadeeshPujari, Content Based Image Retrieval using Color , Texture and Shape features, International Conference on Advanced Computing andCommunications,780-784 (2007).

[4]. Zhang Ji, Hsu, Mong and Lee (2001), “Image Mining: Issues, Frameworks and Techniques ,” Proceedings of the Second International Workshop on Multimedia Data Mining (MDM/KDD’2001), in conjunction with ACM SIGKDD conference, San Francisco, USA, 26th August.

[5]. Mussarat Yasmin, Sajjad Mohsin and Muhammad Sharif,” IIntelligent Image Retrieval Techniques: A Survey”, Journal of Applied Research and Technology.

[6]. C. Ordonez and E. Omiecinski (1999), “Discovering association rules based on image content,” Proceedings of the IEEE Advances in Digital Libraries Conference (ADL’99).