IMPLEMENTATION OF CONTENT-BASED IMAGE RETRIEVAL USING ARTIFICIAL NEURAL NETWORKS

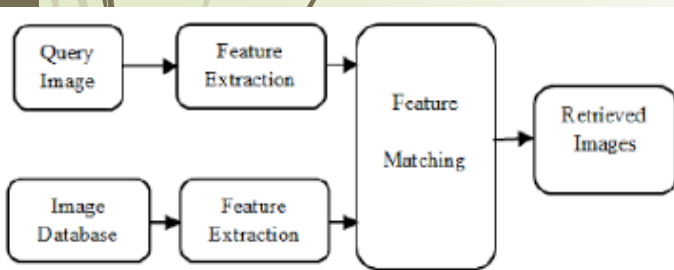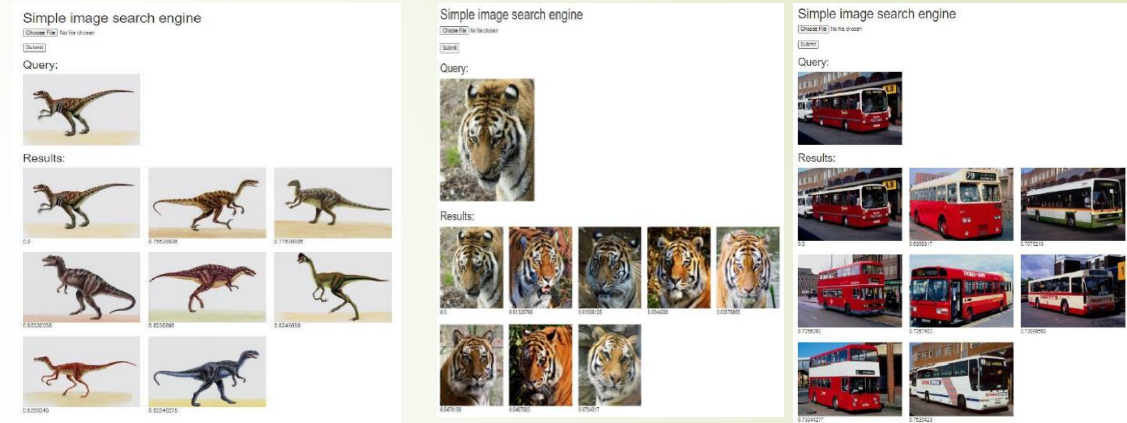Sarath Chandra Yenigalla [1], Srinivas Rao K [2] and Phalguni Singh Ngangbam[2]

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Introduction

- Image retrieval systems enable the browsing, searching, and retrieval of 26 images from a large database of digital images.
- Image retrieval include 27 the addition of metadata such as captioning, keywords, titles, or descriptions to images, which 28 can be used for retrieval.
- CBIR utilizes computer vision to retrieve images based on similarities in their contents, such as textures, colors, and shapes, to a user-supplied query image or user-specified image features, thereby avoiding the use of textual descriptions.
- Content-based image retrieval (CBIR) is the application of computer vision techniques to the 5 image retrieval problem, which is the challenge of searching for digital images in large 6 databases.
- CBIR is also known as query by image content (QBIC).
- CBIR is opposed to 7 traditional concept-based approaches that rely on metadata such as keywords, tags, or 8 descriptions associated with the image.

Results and discussion

Retrieved images with Euclidean distance

CBIR Architecture

Table: accuracy of algorithms

Algorithm	Corel 1k	Animal	Dinosaur
KNN	60%	60%	60%
CNN	50%	50%	50%
SVM	80%	80%	80%

Accuracy outputs of SVM,CNN,KNN


```
[INFO] describing images...
[INFO] evaluating raw pixel accuracy...
[INFO] raw pixel accuracy: 80.00%
[INFO] evaluating histogram accuracy...
[INFO] histogram accuracy: 80.00%
```

```
[INFO] describing images...
[INFO] evaluating raw pixel accuracy...
[INFO] raw pixel accuracy: 50.00%
[INFO] evaluating histogram accuracy...
[INFO] histogram accuracy: 80.00%
>>>
```

```
[INFO] describing images...
[INFO] evaluating raw pixel accuracy...
[INFO] raw pixel accuracy: 60.00%
[INFO] evaluating histogram accuracy...
[INFO] histogram accuracy: 80.00%
```

Contact

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