MINI PROJECT
ON
IMAGE CLASSIFICATION

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Introduction

It is intriguing how we can recognize people, animals, and places. It is even more intriguing to develop a mathematical algorithm that mimics the mechanism of image recognition.In our daily life, we take in a huge amount of information from many sources around us. Next, we form a preconception. To visually recognize images, we compare the image at hand with the ones that we have accumulated through our experience.

our brains find types of images that have the same features that the unknown image has. Thus, the edges of the images take an important part of our own biological image recognition process.

Image Classification [1]

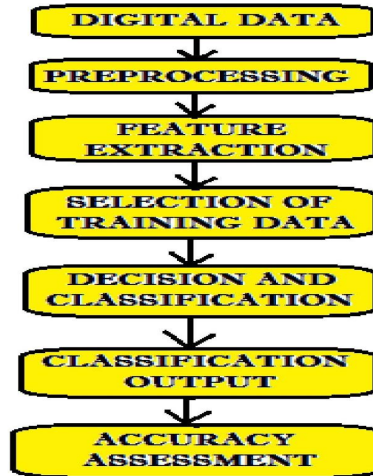## Classification Process consists of following steps:-

Image Classification Steps [1]

Digital Data:- **An image is captured by using digital camera or any mobile phone camera.**

Image Classification Steps [2]
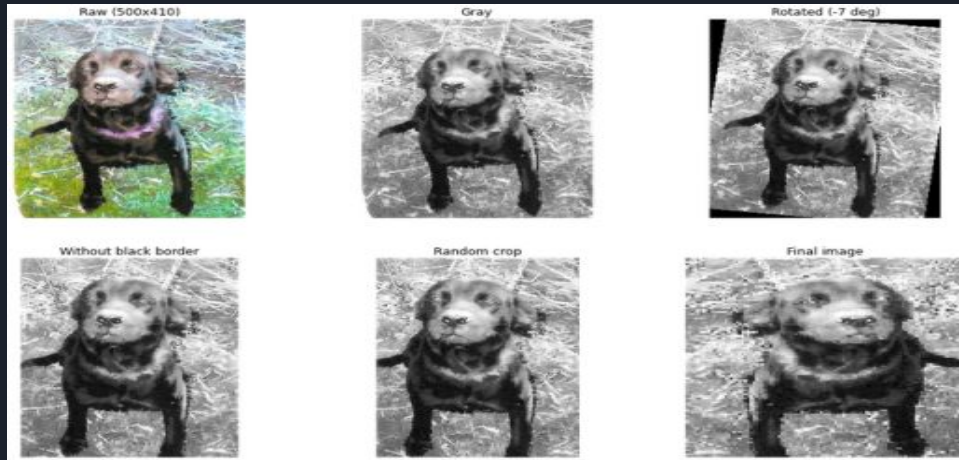
Pre-processing:- **Improvement of the Image data.**

Image Classification Steps [3]

Feature Extraction:- **The process of measuring or calculating or detecting the features from the image samples.**

The most common two types of feature extraction are:-

- **Geometric feature extraction**
- **Color feature extraction**

Image Classification Steps [4]

Selection of training data:- Selection of the particular attribute which best describes the pattern.
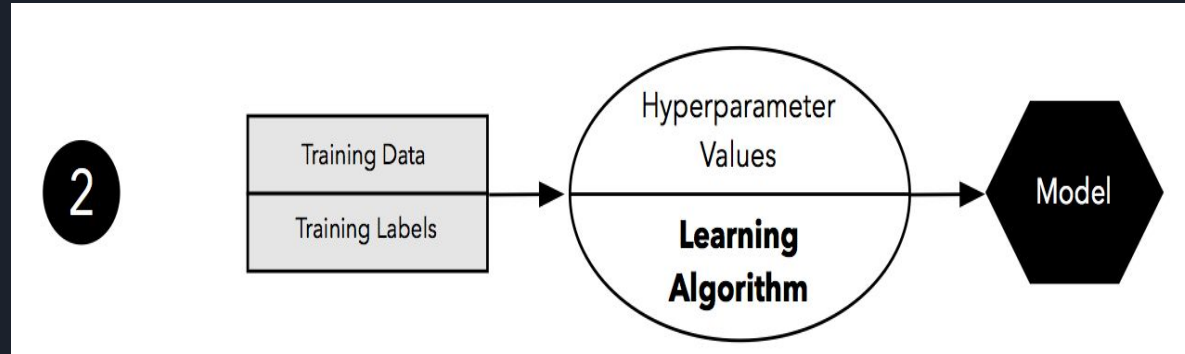
Image Classification Steps [5]

Decision and Classification:- Categorizes detected objects into predefined classes by using suitable method that compares the image patterns with the target patterns.
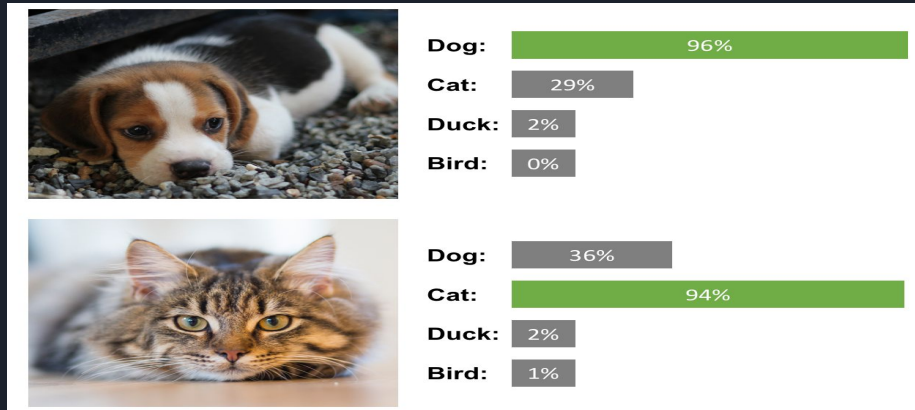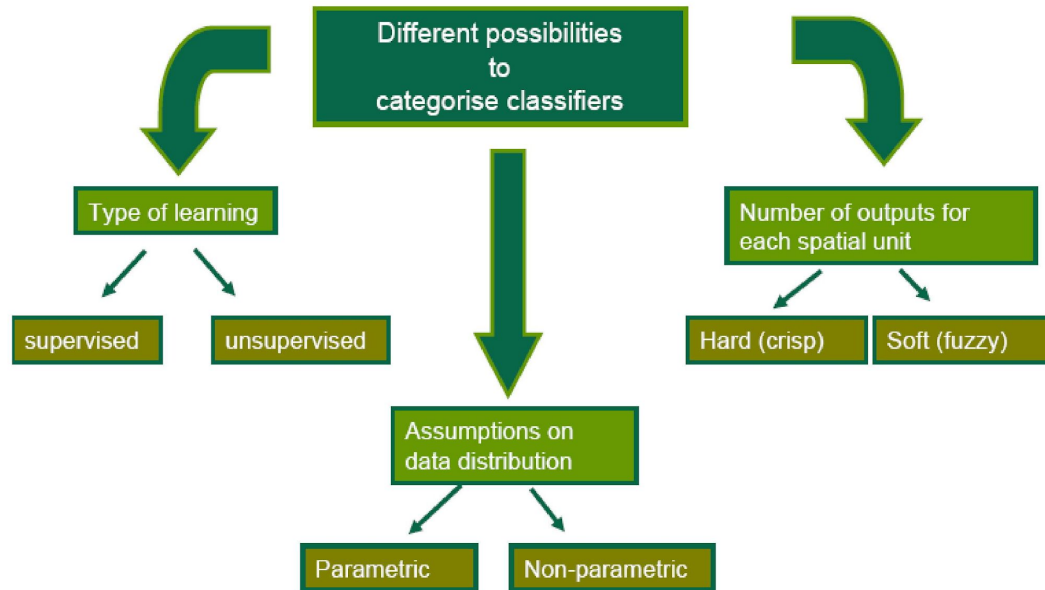
Image Classification Steps [6]

Accuracy assessment:- An accuracy assessment is realized to identify possible sources of errors and as an indicator used in comparisons.

Image Classification Approaches

Application of Image Classification

- Biomedical imaging
- Vehicle navigation
- Robot navigation
- Remote sensing
- Industrial visual inspection
- Biometry

Software Requirement

- Python Language
- Keras
- Numpy
- MatplotLib
- Pandas
- Jupyter Notebook

References

- https://keras.io/

- www.medium.com

- www.towardsdatascience.com

- https://www.youtube.com/

Thank You

Any Questions??