PATTERN RECOGNIZATION

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Abstract:-

The paper is about the topic pattern recognition technology, this is a survey paper which provides are generalized idea about what is pattern recognition and its working in the present technologies.

Keywords: - pattern recognition, working in the present technologies

1. INTRODUCTION

The term pattern recognition is a buzz word in the technical fields which is just a study of how an integrated machine identifies and analyses an object of the real world. It considers with recognition of various patterns and with human perception methodologies. The pattern recognition is used in various fields the networking, medical fields, artificial intelligence etc.

What is pattern recognition?

Pattern recognition, the term denotes the scientific study about to integrate certain segregated and abstracted elements of a particular stimulus and the capability of aggregating in a structured schema of retrieval memory storage, a pattern is irrevalant form of the chaos and the patterns can be of different types. The pattern recognition has many different pattern used to identify the elements on the universe, it is all about how an integrated machine learn interact and understand the environment and the set of measurements by understanding such elements in accordance with the making of sounds, and about various types of pattern the measures pattern or elements are called as physical objects.

Types of pattern: There are various kinds of pattern recognition and they are vaguely named those types of pattern are crystal patterns, patterns of constellations, biological pattern which contain morphology and musical patterns.

Human perception: Peoples have good effective sophisticated knowledge about the sense of knowing the surrounding happenings and environment ,listen them and act according to it they include understanding and recognizing a face, capturing the sense of spoken words, reading handwriting, deliverance of a speaking language.

Pattern classes: The unnecessary identical objects comes the observation and recognition are grouped as an objects, the collection of similar set of patterns are common attributes.

Phases of pattern process: There are two types of phases as

- Training or learning
- Detecting or classifying

Learning: The learning pattern process is classified into majorly into supervised and unsupervised

Supervised: The corrected output which is provided by set of instances and training data provided for it which is appropriately
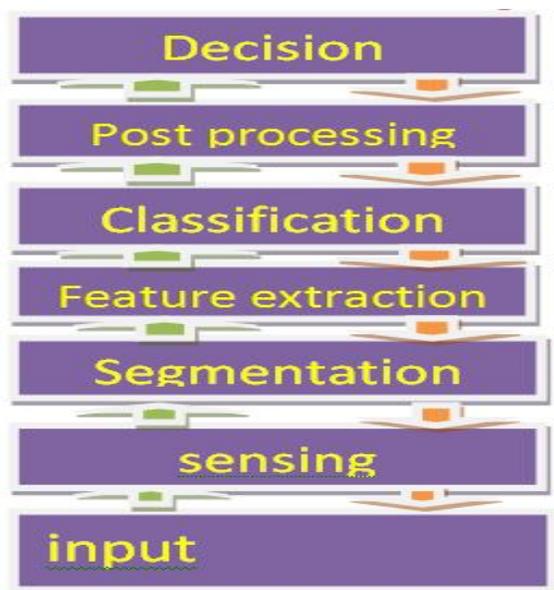
handled by hand, they also provide cost for each pattern recognized in the training set.

Unsupervised: On an assumption that the training data and instances, these data which is not properly labeled by hands will search for different inherent patterns which will represent and initiate an corrected new data output as valuable outputs.

A combo of these two types is **semi supervised learning** it uses both the labeled and unlabelled data but the term called training data does not come in the semi supervised learning.

A learning procedure then generate an example model in it which attempts to combine the two terms which is training and the new data for such combination or combining terms the named by Occam's razor as simple The naming of terms varies even for similar labeled instances for both unsupervised and supervised learning like the presuming term without the training data to speak about in it is named as clusters and the distance between them is known as vectors in any multidimensional vectors.

Phases in pattern process: The phases of pattern process are segmented as:

Figure: 1 Phases of pattern recognition

Data acquisition and sensing which helps in measuring the bandwidth, variables, and resolution. In this phase it has three sections in it as training, testing and validation the training data are known as learning models and to adjust and test the system parameters they use validations. Preprocessing helps in isolating the background pattern according to our interest and helps in removing noise from data Feature extraction features with new representations are found uses this. Classification allocates categories for pattern which consist of new features and learned models in its patterns Post processing decisions are made in accordance with effective evaluation of confidence

Example for Recognizing:
Take two identical elements. What can cause problem during sensing those elements are in improper position of the element on the conveyor belt under lightening condition and camera noise.

What are the steps in process?
- Capture image
- Isolate and segregate images and their relevant measurements and make decision

Features of pattern reorganization
- Quickly and indentify them accurately
- Recognize and classify the objects of different angle and will also identify when even the images are portly hidden
- Quick recognization

Advantages:
Recognize pattern in various angle

Disadvantage:
Recognization of a particular character image cannot be explained

CONCLUSION

Thus the pattern recognization technique is the advance development in technical field which is been implemented in many fields like AI etc., It will be even recognized in many other fields.

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