A Short Study on the Human Behaviour Analysis

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ABSTRACT

Human Behaviour has been a mystery since the ancient era but researchers believe that everything has a pattern and that can be analyzed based on different behvaioural attributes. In this paper, we haved tried to analyze what type of attributes make a person impatient and envy of others.

Introduction

People have been captivated and puzzled by human diversity since ancient times. In today's globalized world, many of the key challenges facing humanity, such as reversing climate change, coordinating economic policies, and averting war, entail unprecedented cooperation between cultural groups on a global scale.

The study of human behavior is important because it is highly needed in the field of psychology, sociology, economics, anthropology, and psychiatry to analyze why human beings feel, think, and act the way they do.

Academic and commercial researchers alike are aiming towards a deeper understanding of how humans act, make decisions, plan, and memorize. Advances in wearable sensor technology along with procedures for multi-modal data acquisition and analysis have lately been enabling researchers all across the globe to tap into previously unknown secrets of the human brain and mind.

Human Behaviour analysis is a continous process, from the ancient era to now, behaviour of human are changing, so the analysis of human behaviour to solve and understand the world deeper, the researcher should pay more attention to these analysis.

As has been said earlier, human behaviuor is till now mysterious and the researcher still couldn't reach to a coclusion. And for these various type of data is needed and the pattern of human behaviour must be analyzed based on different attributes.

Background

0.1 K-Nearest Neighbours

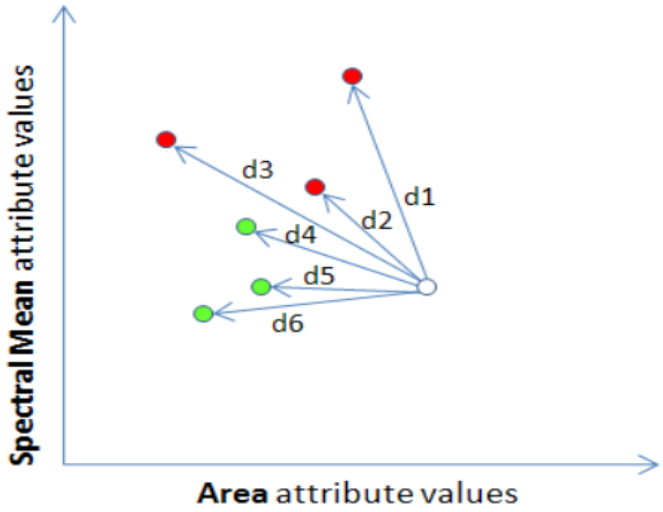
The K Nearest Neighbor (KNN) method computes the Euclidean distance from each segment in the segmentation image to every training region that you define. The distance is measured in n-dimensional space, where n is the number of attributes for that training region.Figure 1a shows the KNN's distance measure from a point to it's class neighbours.

0.2 Neural Network

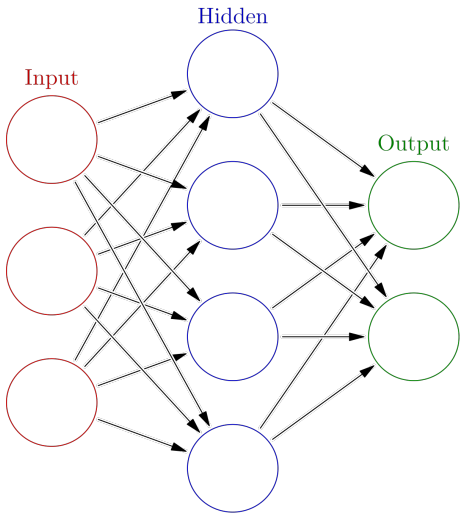
A neural network is a network or circuit of neurons, or in a modern sense, an artificial neural network, composed of artificial neurons or nodes. It takes some input as neuron, process the inputs in other hidden neuron and gives an output.Figure 1b represents a visualization of Neural Network.

0.3 Tools

Language : Python
Platform : Jupyter Notebook



(a) The figure shows distances from one segment to all of the training regions (i.e., its neighbors).



(b) A graphical representation of neural network

Libraries : numpy, panda, matplotlib. scikitlearn,tensorflow,keras

Methods

0.4 Pre-Processing

As our dataset was collected from students' input, that was not properly organized.We have two part in our project. First we wanted to predict if a person is impatient or not based on some attributes such as-

- if he/she need to win in order to derive enjoyment from games and sports
- often try to do more than one thing at a time
- feel confident when you start any project?, get angry instantly if anything goes wrong
- find it difficult and frustrating to wait in line
- eager to harm thyrself to defend your beliefs and impatient in general.

The students input was in yes/no/maybe. We assigned value of 3,2,1 replacing these answers and we have discarded the invalid inputs or made some processings. To normalize our data, we have put some weight to each attribute, initail weight was based on each students cgpa. We have also tried to plot the datas to discriminate the behaviour difference of male and female based on these attributes.

Our other feature was to categorized if a person feels bad of other people's success. These was based on attributes

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- how many people he/she follow on social media
- daily spent time in social media (hour)
- if he/she feels low seeing other people's achievement on social media and happy with current situation

And the data processing was similar to previous one.

We have used KNN and Neural Network model to train and test our data. A work flow of this paper has been shown in figure 3

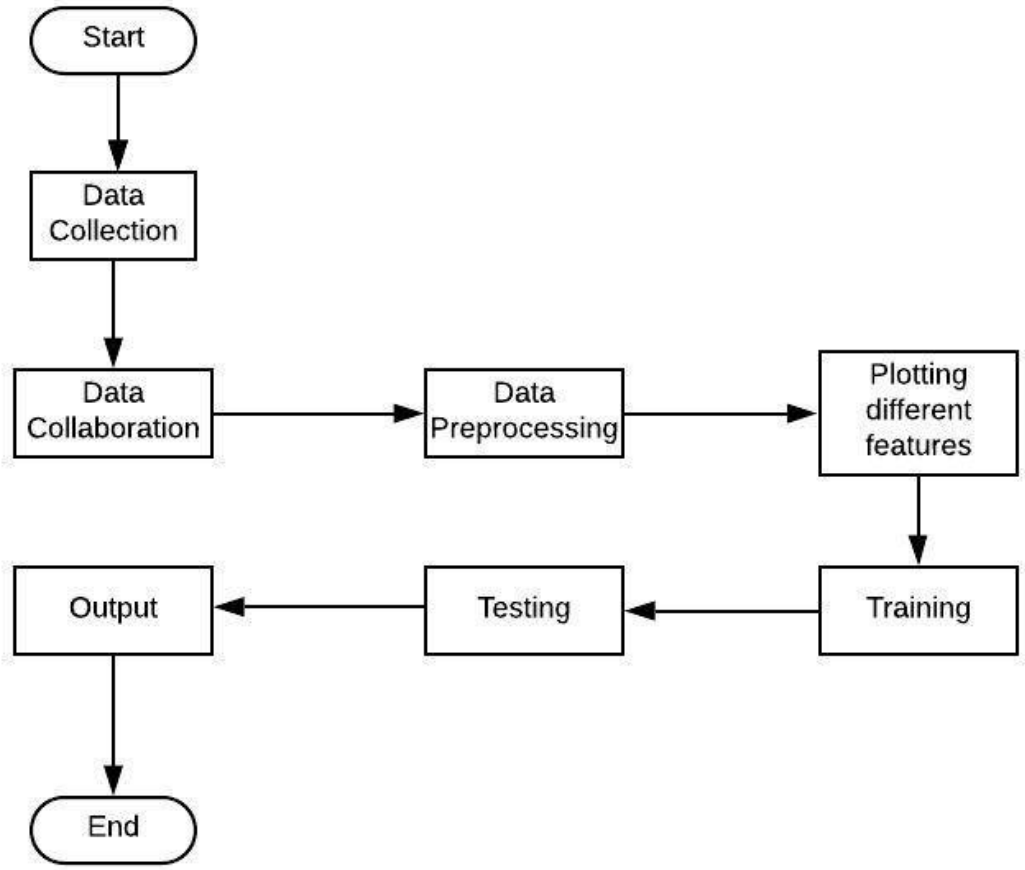


Figure 2. Work flow of human behaviour analysis.

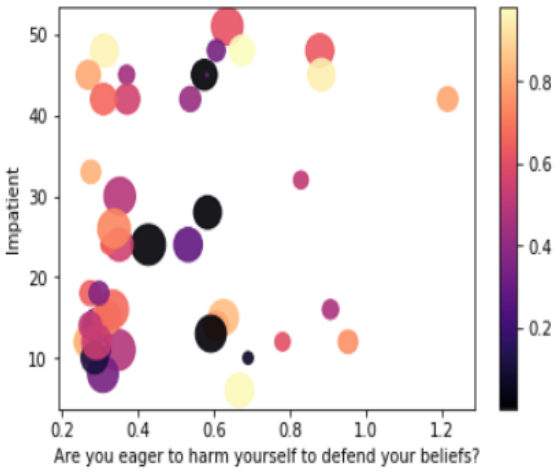
Results

From our analysis, we found out that being impatient doesn't really depend on gender but the other we attributes we chose have some co relation among them. We haven't got much accuracy as the dataset was no sufficient. Some results has been shown in figure 3.

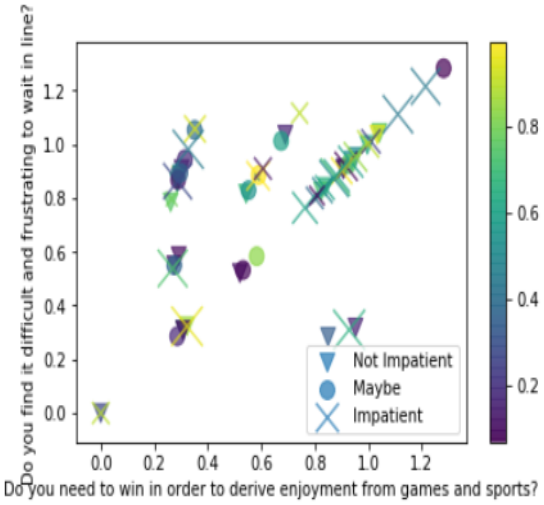
- In figure 3a A relation has been shown between attributes impatient (Y-axis) and being eager to harm beliefs to protect thyslef (X-axis).
- In figure **??** A relation has been shown between attributes derive happiess in order to win game (Y-axis) and being impatient (X-axis).
- In figure 3c A relation has been shown between attributes impatient (Y-axis) and gender (X-axis).
- In figure **??** Confusion matrix after applying KNN for k = 15.

Discussion

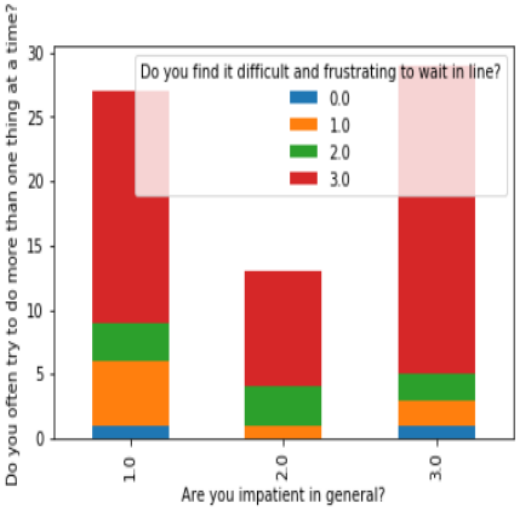
As the attributes of human behaviour are too many and volatile, so its very tough to accurately predict human behaviour. Because of this, we have to collect a vast amount of data for getting more correct result of behaviour analysis. Not only we have to collect more data but also we have to follow some effective preprocessing. If we



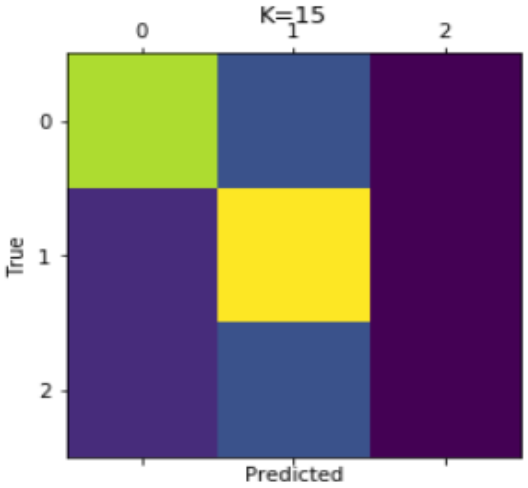
(a) Result 1



(b) Result 2



(c) Result 3



(d) Result 4

Figure 3. Figuress of different output.

preprocess the data more properly, then we will be able to do better accuracy in human behavior prediction. The first and foremost job that we have to do is to get a vast dataset of humman behavior followed by some specific attributes. Then we have to find out some effective deep learning methods as preprocessing step. So that redundent data can be eliminated and we would get more accuracy.