

SURVEY ON PERSONLITY CLASSIFICATION

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Abstract:- Personality is one of the most important aspects of the human beings. In different professional sectors like IT sector, financial sector, Business Sector, etc., the first thing that a person notice is personality. Thus, predicting personality has become one of the major tasks. In this paper we present the survey of different techniques and algorithms necessary for classification of personality. We compare and contrast different techniques as well as algorithms on the basis of performance measures such as accuracy, precision, recall, error rate etc.

Keywords:- Big Five Model, Neural networks, Personality prediction, SVM.

I. NTRODUCTION

Classification is the technique to group similar items in one cluster or groups. There are different techniques present in classification. The main aim of classification is to separate the similar data for the ease of understanding it. Personality qualities can be extracted from the handwritten source, behavioral changes, social networks etc., but this information is not always present. Thus, in this view portrait images are one of the better options that can be made available. To achieve the objective of this work portrait pictures are possible source of information.

II. MOTIVATION

Appearance can the affect social interaction, which in turn affects personality development. morphology and social cues provide information about human personality. Now-a-days due to online meeting, exams, interviews etc., it is very difficult to know the personality of the people. Thus, this project aims towards predicting personality traits of humans.

III. LITERATURE SURVEY

In [1], Deep Neural Network Model is used for predicting personality. It can classify personality from portrait images based on Five Factor Model (Big Five). The factors in five factor model are: Openness to experience(O), Conscientiousness(C), Extraversion(E), Agreeableness(A), and Neuroticism(N). But this paper possesses less accuracy when the images are blur.

In [2], a multiclass Support Vector Machine (SVM) is used to classify five factors as five classes. SVM generalizes more accurately on unseen cases minimizing error so it can generate better prediction of multi-class cases. Based on the results, this method produces high accuracy and smaller error rates by generalizing problems.

In [3], classification is done using Naïve Bayes Algorithm and support Vector Machine and personality is classified using Big Five Personality Traits. This model works on results submitted by participants from online test and his/her personality would be predicted accordingly. This model is useful for applicants for job in an organization where the organization gives more priority to one's personality rather than his/her technical knowledges. Results of this model shows less accuracy using SVM compared to Naïve Bayes Algorithm.

In[4], for prediction personality various supervised, unsupervised and semi-supervised data mining techniques are used based on different features. By combing user's demographics features, like and activities, the prediction becomes more accurate.

In [5], personality of an individual is defined based on input given by individual. This input is in text format. There is a text area where user needs to enter about himself manually. This description provided by user works as input to the model. The output will be personality of user and is calculated based on raw data given as input. Output is also given in description as output. Detailed report of personality type would be given as output. Drawback is that user can cheat by giving wrong input text.

In [6], two algorithms are used namely, AttRNN (Attention Recurrent Neural Network) and BiGRU. Amongst this algorithms BiGRU model shows poor results. BiGRU model is unsuitable because it uses Facebook likes for prediction which contain too little information. It is different for BiGRU model to train from less data. Unlike existing studies that ignore temporal properties of digital footprints, this model focuses on it for more accuracy.

In [7], many papers used LIWC (Linguistic Inquiry Word Count), SPLINE (Structured Programming Language Cue Extraction) and SNA (Social Network Analysis) tools. LIWC is used to count percentage of total words that match with

psychology dictionary-based categories. Traditional LIWC dimensions and summary variables are two characteristics of linguistic analysis. Traditional LIWC has I-words, Social-words, positive emotions and negative emotions, cognitive process and summary variable includes analytic, clout, authenticity and emotional tone.

In [8], prediction is done for Turkish language and is predicted related to writing style of Turkish twitter tweets. Results for this model show relatively small errors in prediction. Drawback is that only words cannot decide personality of person.

In [9], the model focuses on self-reported personality and facial features. Model works on Big Five Personality Traits and uses static facial images as input. Results show that: 1] using facial images prediction exceeds to 70% accuracy. The characteristics like neuroticism and extraversion gave 90% accuracy due to facial images, 2] deep learning neural network works better than traditional manual features in predicting personalities. The result strongly supports application of neural network as the model is trained with large amount of data which is multidimensional for facial images, 3] there are few differences in personality traits of work contains including more personality traits which may lead to more accuracy.

In [10], classification of personality is based on Big Five Model also known as OCEAN model which means Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism. Many studies use AU, LF, POS, Emotional features and their combinations for personality prediction.

IV. CONCLUSION

We have reviewed a comprehensive survey of different classification techniques used for differentiating personality of human being. We compare and contrast different techniques as well as algorithms on the basis of performance measures such as Accuracy, Precision, Recall etc. As a future work we include classification of portrait images using SVM and comparing its performance parameters with other different algorithms.

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