Scientific Journal of Impact Factor (SJIF): 3.134

E-ISSN (O): 2348-4470
P-ISSN (P): 2348-6406

International Journal of Advance Engineering and Research Development

Volume 2,Issue 11,November -2015

Data Analysis Of Human Behaviour Using Decision Tree

Patel Farzana Fatima Yousuf[1], Kadam Rhutuja[2], Zende Tejaswini [3], Satpute Sonali[4], Prof. Sharmishta Desai [5]

[1-5] *Department of Computer Engineering, MIT College of Engineering,*

Abstract — *Human behavior is expression used to depict one's miens and exercises. The most vital part of human conduct is emotions. We have to comprehend essential human behavior with the goal that we can attempt and anticipate how one will respond to any circumstance. Fear, anger, depression, excitement and happiness are few of the feelings that go under classification of human behavior. We inquired about connection between human behavior and portable utilization. There are looks into going ahead in prestigious organizations about this field of study. As all the Smartphone's these days have different sensors, we can record clients' exercises in like manner to analyze and examine client's passionate state. In this paper we recommend an application that gathers client's information from the phone itself and gives day by day overhaul of one's passionate state for that reason we utilize DASS and decision tree. Furthermore, if there are any strange behavioral exercises then client is given a test to check one's perspective.*

Keywords- Reality Mining, Correlation and regression analysis, Psychology

I. INTRODUCTION

People are complex individuals. They have bunches of considerations, perspectives and viewpoint, this prompts them feeling emotions which prompts have an assortment of dispositions. This felt dispositions can have unfriendly and also beneficial outcome on individual's profitability. As indicated by numerous inquires about a man with great state of mind and an inspirational standpoint has a tendency to perform tastefully well then that of a man with bleak mentality and not all that positive perspective. It is additionally watched that people who are tragic are more disposed to invest more energy in their cell phones and on online networking locales. This albeit incidentally gives some accomplice yet again the client feels desolate. Work by Anmol Madan et. al on examining impacts of social interactions on weight change is likewise a case of how reality mining can be connected to zones that were tentatively out of reach before [1]. The investigation done in this work uncovered that closeness to hefty or idle associates can impact a people way of life. Sai T Moturu et. al have investigated in their paper the relationship between rest, mind-set and friendliness [2]. Jun-Ki Min et. al have performed grouping of contacts into family, work and social aspects with ˜90% exactness [3]. Such examinations have been instrumental in examining different parts of human conduct from a completely new point of view. In our project We have utilized linear regression procedure for model selection and the whole process is done utilizing R, the statistical analysis tool [4][5].
In this paper we recommend an application that gathers client's data from the phone itself and gives day by day redesign of one's enthusiastic state for that reason we utilize DASS and choice tree.

1. DASS: Emotional syndromes like depression and tension are inherently dimensional - they shift along a continuum of seriousness (free of the particular conclusion). Thus the decision of a solitary slice off score to speak to clinical seriousness is essentially subjective. Here, we utilize DASS. The vital capacity of the DASS is to survey the seriousness of the center side effects of Depression, Anxiety and Stress. In like manner, the DASS permits not just an approach to gauge the seriousness of a tolerant's side effects yet a methods by which a persistent's reaction to treatment can likewise be measured. DASS can prompt a valuable evaluation of aggravation, for instance people who may miss the mark concerning a clinical cut-off for a particular determination can be accurately perceived as encountering significant side effects and as being at high danger of further issues. The individual DASS scores don't characterize proper intercessions. They ought to be utilized as a part of conjunction with all clinical data accessible to you in deciding fitting treatment for any person.

2. Decision Tree: A decision tree comprises of nodes and curves which associate nodes. To settle on a choice, one begins at the root node, and makes inquiries to figure out which bend to take after, until one achieves a leaf node and the decision is made. The primary thoughts behind the ID3 calculation are:

- Each non-leaf node of a decision tree compares to a data trait, and every circular segment to a conceivable estimation of that quality. A leaf node compares to the normal estimation of the yield characteristic when the info qualities are depicted by the way from the root node to that leaf node.

- In a "good" decision tree, each non-leaf node ought to compare to the data trait which is the most instructive about the yield property amongst all the info qualities not yet considered in the way from the root node to that hub. This

is on the grounds that we might want to anticipate the yield quality utilizing the littlest conceivable number of inquiries by and large.

• Entropy is utilized to decide how instructive a specific information property is about the yield characteristic for a subset of the training data.

II. LITERATURE REVIEW

One of the exploration basically proposes that people conduct has one essential segment that is extremely pivotal i.e. feelings. There was an exploration directed on connection between people utilizing touch interface of computerized gadget and human conduct. They discovered connection between them both which helped the specialists to know the clients passionate state. The scientists utilized the implanted sensors put as a part of cell telephone to gather touch recurrence and examples with a specific end goal to figure out client's feeling. Utilizing the client's touch conduct which was gathered by 3 sensors that was again isolated into 12 properties, they perceived client's 7 fundamental feelings by disconnected from the net investigation implies. The last step was to make inclination framework of uses. It was made by computing distinction in the middle of earlier and back passionate states. Beginning study demonstrated consequence of 0.57 of normal f1-measure score and 0.82 with choice tree based system.

In another examination they learned about first proof of day by day bliss of client that can be distinguished consequently utilizing sensors and pointers by the information gathered through cell telephone. All information, for example, call logs, sms and Bluetooth nearness are gathered together. The last machine learning model uses irregular timberland classifier; it gives exactness of 80.81%. They examined and distinguished pointers that have high prescient force, different machine learning models and some knowledge of future degree.

III. SURVEY OF PROPOSED SYSTEM

In this paper we comprehend fundamental human behavior so we can attempt and anticipate how one will respond to any circumstance. We explored connection between human behavior and versatile use. As all the Smartphone's these days have different sensors, we can record clients' exercises likewise to analyze and examine client's passionate state. In this paper we add to an application that gathers client's data from the telephone itself and gives day by day redesign of one's enthusiastic state for that reason we utilize DASS and decision tree. What's more, if there are any strange behavioral exercises then client is given a test to check one's perspective.

IV Mathematical Model

Let S be whole System,
S={I,P,O}
Where,
I-input,
P-procedure,
O- Output.
Now,
Input (I):
I= {U,HB}
U= user of android phone
HB= Human Behavior
Procedure (P)-
P= { ERM, Ev, BC, DC}
Where,
ERM= Emotion Recognition Model
ERM={Ex,LR,M}
Ex=Extraction
LR=Linear regression
M=Mapping
Ev=Evaluation model
Ev={N,V}
N=Normalization
V=Validation
BC=Behaviour Model
BC={DT,DE,R}
DT=DASS test

DE=Decision
R=Results
DC= Data Collection
Output={R} Get result on android phone.

1. Decision Tree Algorithm:

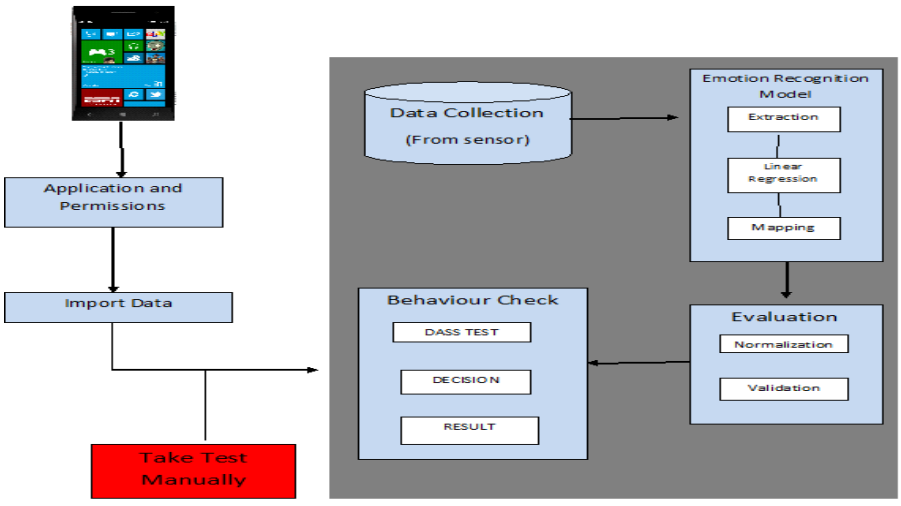
- It builds a decision tree algorithm with no backtracking, top-down approach
- Information gain is used to select best attribute for classification
- Entropy : it's a measure of uncertainty about a source of message, range is 0 to 1
  1 means homogeneous data
  Formula:

$$E = \sum_{i=1}^{n} p(x_i)\log_2 p(x_i)$$

p(xi)=P(X=xi) is probabilistic mass function of X

- Information gain: it measures expected result in entropy
- Gain(S,A)=E(S)-I(S,A)
  = E(S) - Σ|Si| / |S| . E(Si)
  E(S) is constant for all attributes A
  A is the attriute
  S is set of attributes that is divided into subset Si
- Id3 calculates gain of all attributes and selects one with the highest gain, which is located as root node in decision tree
- In building a decision tree ID3 selects the feature which minimizes the entropy function and thus best discriminates among the training instances.

V SYSTEM ARCHITECTURE



.

VI CONCLUSION AND FUTURE WORK

In this paper we build up an application that gathers clients information from the phone itself and gives day by day overhaul of one's enthusiastic state. What's more, if there are any strange behavioral exercises then client is given a test to check one's perspective. We fabricated our own application to screen cell phone use with the point of investigating and

conceivably refining the sorts of components that could be utilized as a part of such examinations. We attempted to incorporate components, for example, screen status and system use in our models and discovered them as contributing elements in our investigation. Utilizing numerous direct relapse we tried different parameters and found that most ordinarily explored different avenues regarding components, for example, approaching and active call span and in addition system insights were frequently suitable to be incorporated into a prescient model.

For future degree there is work required in taking after points, which are improvement the procedure of reporting information by one self to check it with behavioral information, just select information required from the given dataset.

ACKNOWLEDGMENT

We might want to thank the analysts and also distributers for making their assets accessible. We additionally appreciative to commentator for their significant recommendations furthermore thank the school powers for giving the obliged base and backing.

VII REFERENCES

[1] A. Madan, S. T. Moturu,D. Lazer and A. Pentland, "Social Sensing: Obesity, Unhealthy Eating and Exercise in Face-to-Face Networks", Wireless Health 10, October 2010.

[2] S. T. Moturu, I. Khayal, N. Aharony, W. Pan and A. Pentland, "Using Social Sensing to Understand the Links Between Sleep, Mood, and Sociability", Proceedings of the IEEE International Conference on Social Computing, September 2011, pp. 208–214.

[3] Jun-Ki Min, J. Wiese, J. I. Hong, J. Zimmerman, "Mining Smartphone Data to Classify Life-Facets of Social Relationships", CSCW 13, San Antonio, Texas, USA., February 23 to 27, 2013.

[4] R Development Core Team (2008, R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria,ISBN 3-900051-07-0 Available: http://www.R-project.org. [Accessed: 25 Mar. 2014]

[5] Jim Frost, Regression Analysis Tutorial and Examples, December 2013. [Online]. Available: http://blog.minitab.com/blog/adventures-in-statistics/regression-analysis-tutorial-and-examples. [Accessed: 25 Mar. 2014]

AUTHORS

Patel Farzana Fatima Yousuf, pursuing the B.E degree in Computer Engineering at MIT College of Engineering , Kothrud, Pune.

Kadam Rhutuja, pursuing the B.E degree in Computer Engineering at MIT College of Engineering , Kothrud, Pune.

Zende Tejaswini, pursuing the B.E degree in Computer Engineering at MIT College of Engineering , Kothrud, Pune.

Satpute Sonali, pursuing the B.E degree in Computer Engineering at MIT College of Engineering , Kothrud, Pune.

Prof. Sharmishta Desai, Assistant Professor in Computer Engineering at MIT College of Engineering , Kothrud, Pune.

