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Section A-Research paper

PREDICTING ONLINE RUMMY GAME MENTAL DISORDER CAUSED IN YOUNGSTERS USING DEEP BELIEF NETWORK COMPARED OVER KNN WITH IMPROVED ACCURACY.

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Abstract

Aim:Predicting online rummy game mental disorder caused in youngsters using Deep belief network compared over KNN with improved accuracy.
Materials and Methods: The Deep belief network(N=10) and KNN Algorithm (N=10) these two algorithms are calculated by using 2 Groups and I have taken 20 samples for both algorithm and accuracy in this work.
Results: Based on the Results Accuracy obtained in terms of accuracy is identified by Deep belief network algorithm (65.3%)over KNN algorithm(75.9%).Statistical significance difference between Deep belief network algorithm and KNN Algorithm was found to be 0.022 ($p<0.05$).
Conclusion: The Prediction online rummy game mental disorder caused in youngsters using Deep belief network when compared with KNN algorithm.

Keywords: Online Rummy Game, Deep Belief Network Algorithm, KNN, Classification Machine Learning.

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1. Introduction

Mental issues, which influence one out of four individuals in the world, are among the main sources of inability (Whiteford et al. 2015). They address quite possibly the most costly problem to treat, also, for example, the assessed cost of melancholy medicines involves more than e118 billions every year just in Europe (Baer 2015). One prevalent justification for this high treatment cost is the absence of mindfulness of the infection . To be sure, if the patients' ailment deteriorates, yet, they don't attempt to search for help, they may ultimately experience a backslide and may be hospitalized, which includes high efficiency and human weights (Marsch, Dallery, and Lord 2014). While trying to reduce these weights the examination exertion at first centered around creating methods of remotely observing the patients' medical issues by consistently mentioning them to answer a bunch of wellbeing related inquiries (Shenasa et al. 2018). These inquiries were posed through one of their gadgets, generally a cell phone, so that the patients could give unadulterated, unpremeditated input while playing out their standard thing exercises (Larsen et al. 2015). With the broad utilization of cell phones, it is possible to do as such. As per the GSMA's yearly Mobile Economy report, toward the finish of 2017, there were 5 billion cell phones. Shockingly enough, the quantity of SIM cards outperformed the total populace. Regardless, survey based methodologies experience the ill effects of genuine blemishes (Khanna, Gupta, and Dey 2021), continuous information misfortunes because of low reaction rates huge lower adherence related to a few explicit gatherings, for example, marijuana misuse patients the purported "weariness impacts", that is, a diminishing in dynamic investment over the long run; or even withdrawal, for example the patient ends the method (Augstein, Herder, and Wörndl 2019).

In Last 5 years 2017-2021 the Google Scholar has published more than 196 papers and the IEEE published more than 200 papers about online rummy games. The analysis of Deep belief network Algorithm and KNN Algorithm in high performance efficiency has been made using an experimental approach. My study opinion is the efficient prediction of online rummy games using a compershive of the KNN Algorithm.Our team has extensive knowledge and research experience that has translated into high quality publications(Pandiyan et al. 2022; Yaashikaa, Devi, and Kumar 2022; Venu et al. 2022; Kumar et al. 2022; Nagaraju et al. 2022; Karpagam et al. 2022; Baraneedharan et al. 2022; Whangchai et al. 2022; Nagarajan et al. 2022; Deena et al. 2022)

The Accuracy of existing research is not properly existing in the system. The existence of the experiment is totally and the improvement of accuracy of a proposed algorithm system compared the existing model by improving. To overcome these issues a KNN algorithm is implemented to improve online rummy games by comparing the proposed one with a Deep belief network Algorithm.

Now by the Above two Machine Algorithms that we have taken their own Advantages and Disadvantages in the Current survey. On applying Deep belief network Algorithm Memory to the Dataset followed by Performing Observations using KNN and the results were plotted on a graph then there two techniques are compared based on the Result. Finally getting the best algorithm for predicting (De Smith, Goodchild, and Longley 2007).

2. Materials and Methods

The research work is carried out in the Machine Learning laboratory lab at Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Chennai. The sample size has been calculated using the GPower software by comparing both of the controllers in Supervised learning . Two numbers of groups are selected for comparing the process and their result. In each group, 10 sets of samples and 20 samples in total are selected for this work. The pre-test power value is calculated using GPower 3.1 software (g power setting parameters: statistical test difference between two independent means, $\alpha=0.05$, power=0.80, Two algorithms (Deep belief network Algorithm and KNN Algorithm) are implemented using Technical Analysis software. In this work, no human and animal samples were used so no ethical approval is required.

The data in this dataset explains about the online game predictions performed in different websites attended using game prediction.com by keeping threshold 0.05 and G power 80%, confidence interval 95% and enrollment ratio as 1. In this dataset we have information about online game about total prediction in websites The first format provides information about the Types of items and. The second format provides information about sales in a company . The statistical comparison of the online game prediction using two sample groups was done through SPSS version 21.0. Analysis was done for mean, standard deviation, independent sample T-test. The dataset named ONLINE GAME is downloaded from google https://archive.ics.uci.edu/ml/datasets/Abscisic+Acid+Signaling+Network

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Deep Belief Network Algorithm

In AI, a profound conviction network is a generative graphical model, or on the other hand a class of profound neural organization, made out of numerous layers of dormant factors, with associations between the layers however not between units inside each layer.

Pseudocode Deep Belief Network
Step 1.Begin
Step 2.Set visible units to a training dataset.
Step 3.For m=1to max iterations
Step 4.For n=1 to a size training data
Step 5.Update all hidden units
Step 6.Update all visible units to get model dataset
Step 7.Update all hidden units again
Step 8.Udate weights and biases
Step 9.Select another training dataset
Step 10. end

KNN Algorithm

In measurements, the k-closest neighbors calculation is a non-parametric characterization technique initially created by Evelyn Fix and Joseph Hodges in 1951, and later extended by Thomas Cover. It is utilized for order and relapse. In the two cases, the info comprises of the k nearest preparing models in an informational collection

Pseudocode KNN
1.Calculate "$d(x, x_i)$" i =1, 2, ….., n; where d denotes the Euclidean distance between the points.
2.Arrange the calculated n Euclidean distances in non-decreasing order.
3.Let k be a +ve integer, take the first k distances from this sorted list.
4.Find those k-points corresponding to these k-distances.
5.Let k_i denotes the number of points belonging to the ith class among k points i.e. $k \geq 0$
6.If $k_i > k_j \ \forall \ i \neq j$ then put x in class i.

Statistical Analysis

SPSS software is used for statistical analysis of novel approaches on efficient prediction of online rummy games using Deep belief network compared over KNN with improved accuracy. The independent variable is LSTM accuracy and the dependent variable is efficiency. The independent T test analyses are carried out to calculate the accuracy of the LSTM for both methods.

3. Results

Below Table 1, shows the simulation result of proposed Deep belief network algorithm and the existing system KNN were run at different times in the google colab with a sample size of 10. From the table, it was observed that the mean accuracy of the Machine learning Algorithms like Deep belief network algorithm was 80.91% and the KNN algorithm was 69.88%.

The Mean, Standard Deviation and Standard Error Mean were calculated by taking an independent variable T test among the study groups[(Buck et al., n.d.)]. The Deep belief network algorithm produces a significant difference than the KNN algorithm with a value of 0.220 and effect size=1.612.

Table 2 represents the Mean of Deep belief network algorithm which is better compared with the KNN algorithm with a standard deviation of 0.71799 and 0.73395 respectively. From Deep belief network algorithm and KNN algorithm in terms of mean and accuracy (de Saussure 1786). The mean results, the Deep belief network algorithm (80.91%) gives better accuracy than the KNN algorithm (69.88%). Figure 1 gives the comparison chart of Deep belief network accuracy of the KNN algorithm is better than KNN. It is therefore, conclusive that LSTM performs better than KNN. The resultant plots are shown below in figure. The figure has been placed at the end of the paper (Brefeld et al. 2019).

4. Discussion

Deep belief network and KNN algorithms are implemented and compared for online rummy games Prediction to improve the accuracy by review prediction[9]. From obtained results it is concluded that the Deep belief network algorithm provides better accuracy results compared to the KNN algorithm.

In the recent survey,In this paper, we have introduced an original Poisson process combination model, which can be applied to portray the esocial action of mental patients (Brefeld et al. 2019). Besides, to catch the circadian musicality present in the thought about application, we have recommended that every part of the blend is given by a shortened Fourier series (Syed-Abdul, Zhu, and Fernandez-Luque 2020). From an algorithmic mark of the model by joining integral data, such as the sort of call or the term. At last, notice that the approach of this paper has been freethinker, as a worldwide model has been utilized to create customized profiles (Wittstock et al. 2012). Then, at that point, those profiles were normally observed to be essentially different among various patient's gatherings, however the gathering that every quiet has a place with was not known to the model ahead of time (Spiro and Ahn 2016). This approach enjoys the benefit that it will tend to decrease the predisposition of the outcomes. In any case, it would be fascinating to check whether more enlightening outcomes could be acquired if the socioeconomics and additionally the diagnostics of

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the patients are expressly considered by the model too (Gini, De Maio, and Patton 2012).

From the above discussion, only a few articles ensure that they provide better performance than the proposed Deep belief network and KNN algorithm for improving accuracy of ddos attack in a network prediction (Rojo and Ibarretxe-Antuñano 2013).So, we can infer that the proposed Deep belief network and KNN algorithm can be used to improve the accuracy.The future scope of proposed work will be Predicting online rummy game mental disorder caused in youngsters using class labels for lesser time complexity.

5. Conclusion

Predicting online rummy game mental disorder caused in youngsters using Deep belief network compared over KNN with improved accuracy.The work Deep belief network algorithm Prediction to be proved with better accuracy of 80.91% when compared to KNN accuracy is 69.88%.

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TABLES AND FIGURES

Table 1. Accuracy Values for DBN and KNN

S.NO	DBN	KNN

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1	90.00	87.50
2	85.00	83.20
3	87.50	85.60
4	90.10	86.00
5	89.40	87.90
6	90.00	87.20
7	88.30	85.00
8	86.10	86.70
9	90.00	85.50
10	88.40	87.40

Table 2. Group Statistics Results-DBN has an mean accuracy (90.1000%), std.deviation (15.77), whereas KNN has mean accuracy (87.80%), std.deviation (5.6).

Group Statistics					
	Groups	**N**	**Mean**	**Std deviation**	**Std. Error Mean**
Accuracy	DBN	10	90.10	5.77	2.58
	KNN	10	87.80	5.67	2.53

Table 3. Independent Samples T-test - DBN seems to be significantly better than KNN (p=0.99)

Accuracy	**Independent Samples Test**								
	Levene's Test for Equality of Variances		**T-test for Equality of Means**						
	F	**Sig**	**t**	**df**	**Sig(2-tailed)**	**Mean Difference**	**Std.Error Difference**	**95% Confidence Interval of the Difference**	
								Lower	**Upper**
Equal variances assumed	0.001	0.981	0.635	8	.543	2.300	3.619	-6.046	10.64633
Equal variances not assumed			0.635	7.998	.543	2.300	3.619	-6.046	10.64674

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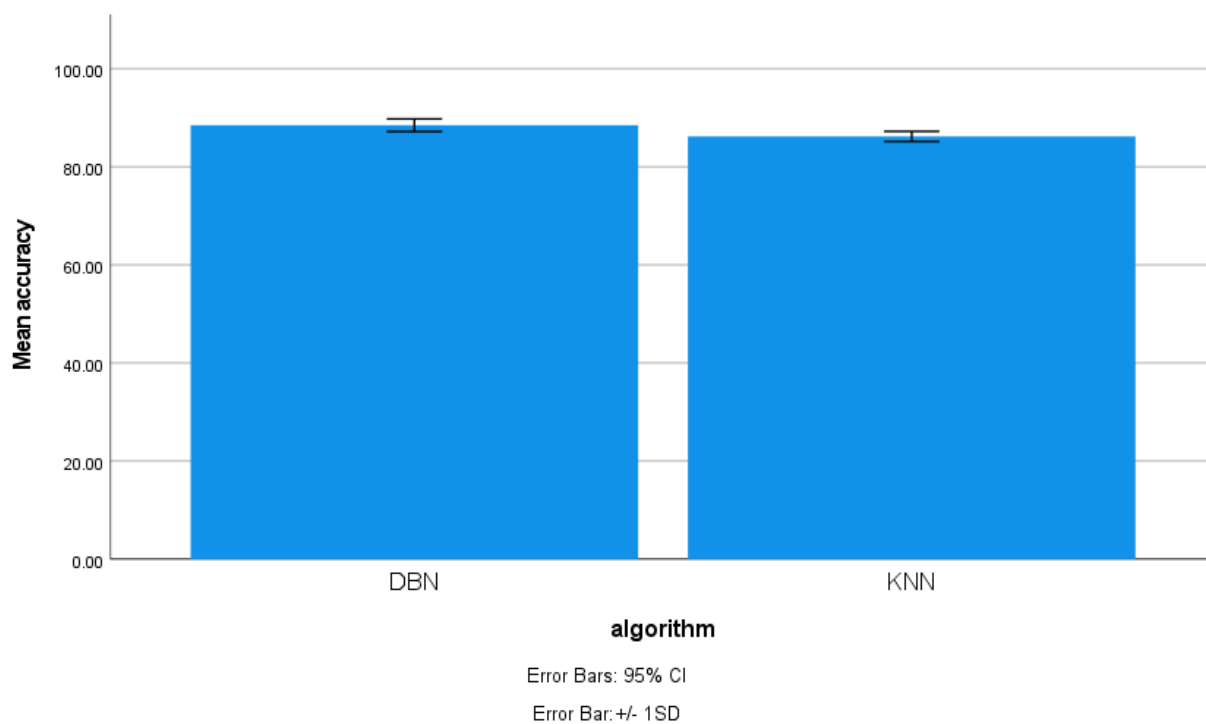
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Fig. 1. Bar Graph Comparison on mean accuracy of DBN (90.10%) and KNN (87.80%). X-axis: DBN, KNN, Y-axis: Mean Accuracy with ± 1 SD.

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