MODIFIED CLASSIFICATION ALGORITHM ENHANCED HUMAN MOBILITY FOR DEPTH SENSOR

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Abstract -This is the first study to look into joint acoustic emissions in the context of knee injury and recovery, as well as the first to use machine learning to assess those emissions and describe joint health. After a knee injury, the joint acoustical emission heterogeneity will be more evident (relative to when the knee is healthy) and will fade with corrective surgery and rehabilitation. Created a novel unsupervised learning-based technique for visualizing acoustic emissions from knee joints and providing a quantitative output indicating the variability of the measures in an existing framework. For the first time, we show that the heterogeneity of the built graph (as measured by the graph community factor, GCF) is larger in wounded participants than in healthy subjects. This is the first time unsupervised graph mining methods have been used to bioacoustics signals. These algorithms were created with the intention of visualizing and quantifying similarities in high-dimensional data single-cell data investigations, but they have never been deployed. In comparison to other physiological markers, which have been widely used and have a high level of accuracy. The parameters of each person's knee differ from those of others, and hence the sounds produced during the procedure vary. In nature, motion is highly varied. Human motion recognition approaches are combined in this Navi basynet categorization. utilizing motion analysis

***Key Words*:** *Big Data, Depth sensor, Human action ,Human motion recognition, Bayesian classification.*

1.INTRODUCTION

Big data is a term used to describe data sets that are so massive or complicated that typical data processing technologies can't handle them. Capturing data, storing data, analysing data, searching, sharing, transferring, visualizing, querying, and updating information privacy are all big data challenges. The term "big data" usually refers to the application of predictive analytics, user behavior analytics, or other sophisticated data analytics approaches to extract value from data, rather than a specific data set size. Data mining techniques can forecast future trends and behaviors, allowing organizations to make proactive, data-driven decisions. Big data typically refers to data volumes that are too large for standard software tools to acquire, curate, manage, and process in a reasonable amount of time. Unstructured, semi structured, and structured data are all included in the Big Data philosophy, although unstructured data is the main focus. The "size" of big data is always changing.

As of 2012, data sizes ranged from a few dozen terabytes to many petabytes. Big data necessitates a set of approaches and technologies, as well as new kinds of integration, in order to extract insights from large, complicated information. Big Data is defined as "high-volume, high-velocity, and/or high-variety data assets that necessitate cost-effective, novel types of data processing to provide better insight, decision-making, and process automation." " Gartner's definition of the 4Vs is still widely used, and it's in line with a consensus definition that says " "ig Data refers to information assets with such a high volume, velocity, variety, and veracity that their transformation into value necessitates the use of specific technology and analytical methods.

2. RELATED WORKS

Akos Utasi et al [2] introduces a novel multi-view annotation tool for generating 3D ground truth data of the real location of people in the scene. The proposed tool allows the user to accurately select the ground occupancy of people by aligning an oriented rectangle on the ground plane. In addition, the height of the people can also be adjusted. In order to achieve precise ground truth data the user is aided by the video frames of

multiple synchronized and calibrated cameras. Finally, the 3D annotation data can b e easily converted to 2D image positions using the available calibration matrices. One key advantage of the proposed technique is that different methods can b e compared against each other, whether they estimate the real world ground position of people or the 2D position on the camera images. In this paper used the proposed tool to annotate two publicly available datasets, and evaluated the metrics on two state of the art algorithms. In many surveillance systems key functionalities involve pedestrian detection and localization in the scene. The location information is used in higher level modules, such as tracking, people counting, restricted zone monitoring, or behaviour analysis. In recent years multi-view surveillance has undergone a great advance, and novel methods have been proposed to improve the efficiency of person detection and localization.

3 PROPOSED WORK

The Naive Bayesian classifier is based on Bayes' theorem with independence assumptions between predictors. Naive Bayes classifiers are a family of simple probabilistic classifiers based on applying Bayes' theorem. Bayes theorem provides a way of calculating the posterior probability occurrence of names in script and clusters in sensor video constitutes the comparable face graph and name graph. For action and name graph construction, propose to represent the human action co-occurrence in rank ordinal level, which scores the strength of the relationships in a rank order from the weakest to strongest. Rank order data carry no numerical meaning and thus are less sensitive to the noises sensor dataset. • Dataset Collection • Feature Extraction • Bayesiannet classification algorithm • Knn graph • Support vector machine (SVM) classifier • J-48 classifier.

4 MODULE DESCRIPTIONS

4.1 Graph Mining:

TECHNIQUES In this module The growth of the use of structure data has created new opportunities for data depth sensor data , which has traditionally been concerned with tabular data sets, reflecting the strong association between data and related data. Much of the world's interesting and mineable data does not easily fold into relational databases, though a generation of software engineers have been trained to believe this was the only way to handle data, and data mining algorithms have generally been developed only to cope with tabular data**.**

4.2 Bayesian Net Classification Algorithm:

Bayes theorem provides a way of calculating the posterior probability, P(c/x), from P(c), P(x), and P(x/c). Naive Bayes classifier assumes that the effect of the value of a predictor (x) on a given class (c) is independent of the values of other predictors. This assumption is called class conditional independence. The Naïve Bayesian classification predicts that the tuple 'x' belongs to the class 'c' using the formula. P(c/x)= (x ⁄c) / (P (x) • P (c/x) is the posterior probability of class (target) given predictor (attribute). • P(c) is the prior probability of class. • P (x/c) is the likelihood which is the probability of predictor given class. • P(x) is the prior probability of predictor.

4.3 KNN Graph:

In this project use the data matrix $\boldsymbol{X_i}$ from each subject to construct a kNN graph, such that the data could be visualized in lower dimensional (i.e., 2D) space while simultaneously the underlying geometric relationships between the data points could be preserved. We

represent the rows of $\boldsymbol{X\ i}$ as vertices in the graph and connect each vertex to its knearest neighboring vertices using the Euclidean distance metric. Weights are then assigned to each graph edge using dice similarity, such that we incorporate the properties of each point's neighborhood rather than relying on Euclidean distance alone in attributing points to particular clusters or communities. The results were remarkably insensitive to the value of k that was chosen with statistically significant differences between the two populations manifesting for a wide range of values. To anticipate that the approach defined in this paper will generalize well to other datasets of joint acoustical emissions for healthy and injured knees or other joints 4.4 Support Vector Machine (SVM) classifier: SVM or sequential minimal optimization (SMO) is alearning system that uses a hypothesis space of linear functions in a high dimensional space, trained with a learning algorithm from optimization theory that implements a learning bias derived from statistical learning theory. SVM uses a linear model to implement non-linear class boundaries by mapping input vectors non-linearly into a high dimensional feature space using kernels. The training examples that are closest to the maximum margin hyper plane are called support vectors. All other training examples are irrelevant for defining the binary class boundaries

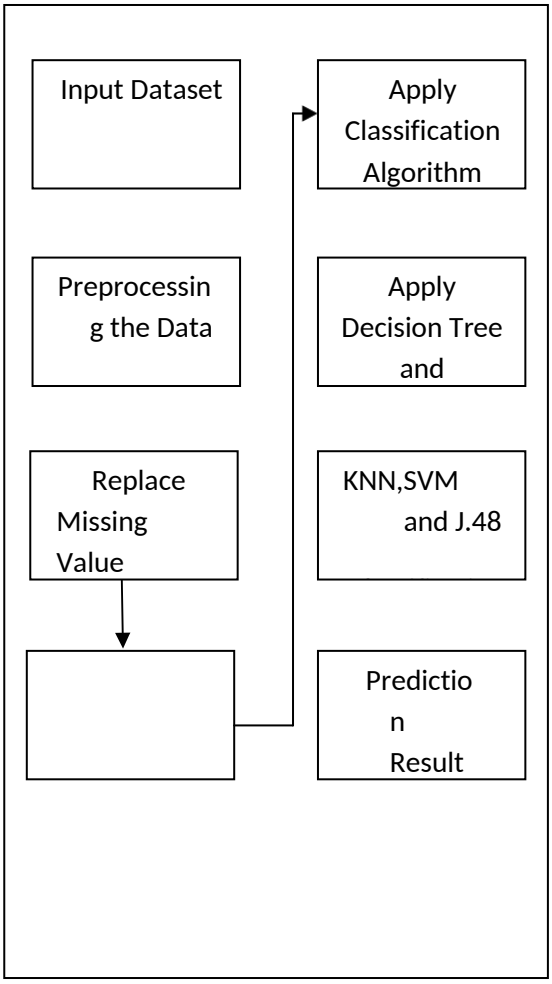

Fig -1: System Architecture

Charts

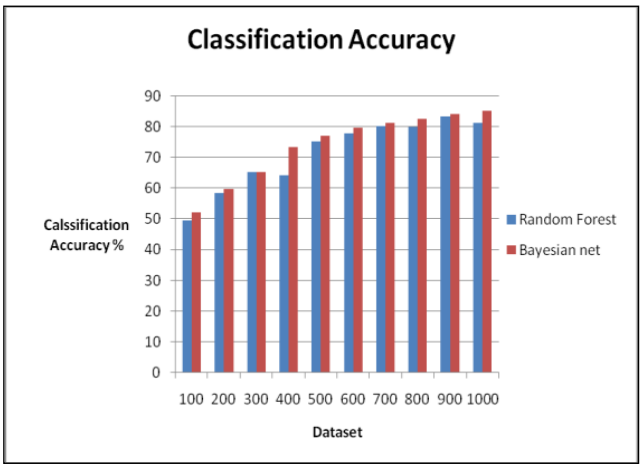

Fig -2: Classification Accuracy

5. PERFORMANCE ANALYSIS

The Human Action tracker is based on simple probabilistic models of the tracking errors of individual trackers. The approach would be to ask to annotate a number of sensor human actions, and then use this data to compute ground truth positions from which error statistics.

6.FUTURE ENHANCEMENTS

This project examines the results obtained with the Naive Bayes algorithm, the Random forest Tree algorithm, and the SVM algorithm in the field of data classification, as well as the overall performance of the Random forest Tree Algorithm when tested on liver disease datasets; the time taken to run the data for results is short when compared to other algorithms. It demonstrates improved performance in relation to its attribute.

7.CONCLUSION

Attributes are fully classified by this algorithm and it gives 80% of accurate result. Based on the experimental results the classification accuracy is found to be better using Navi basyes algorithm compare to other algorithms. From the above results Random Forest Tree algorithm plays a key role in shaping improved classification accuracy of a dataset.

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