On Line Signature Verification Using Manhantton Algorithm

K.Tamilarasi , Dr.S.Nithya Kalyani

Abstract: Signature verification plays a vital role in human identification. The signature is basically classified as offline signature and online signature based on the characteristics of the human. Some of the signature parameters are extracted and verified using classifier and learning method. In this paper a manhatton distance algorithm approached to find out the distance between two pixels. If the two pixels are matched , the original person is identified. Biosecure database and SVC 2004 is commonly used to compare the signature data..

Index Terms: Velocity feature extraction, preprocessing, Manhantton distance algorithm, Signature, SVC 2004, Offline Signature, Image processing.

1. INTRODUCTION

BIOMETRIC is a major verification method to identify the genuine person and forgery person. In early days, finger print of the person, iris and face also included to identify the human[1]. But now a days signature verification is famous method in commercial personal identification[2]. The person signature is classified as a static method and dynamic method. The static method is mostly used for criminal case identification. But dynamic method is used for bank cheque authentication[3]. In signature verification method , in preprocessing various features has been extracted and classified into global feature extraction method and local feature extraction method. These global features has been analyzed using various extraction method . The method have been utilized to improve the accuracy of the result. The local feature extraction analyzed to take the points of minimum distance points of pixel. Similarly the global feature points are taken to calculate the minimum values. The points used to observe the details of every signature. Minimum distance have been adapted to finalize entire result[8]. The method observed to finalize the result has been occupied to deliver the details of the data[9]. The entire result has been updated to deliver the overall performance of the data.[10]. In minimum case, time axis feature, y axis feature are updated to deliver the output of the details.[11]

2 REVIEW OF THE PREVIOUS WORK

The signature has been verified using different algorithm. Some verification algorithm, graphical method followed to develop the algorithm[4]. The graphical tablet provide better resolution. Pens are differently accessed with different dimension and angular velocity[5]. The captured signature is verified using various classifier network, back propagation method, radial basis method and SVM classifier and k nearest neighbour method are used to verify the original signature verification algorithm[6]. The originality of the signature is verified according to the degree of the changes[7]. In many situations various algorithm has been proposed to develop the nature of the signature[8]. The researcher found that many of the false acceptance rate, false rejection rate and equal error rate has been solved and identified various level of percentage to classify the result[9]. 0 to 100 genuine signature and 0 to 200 forgery data signature has been selected for testing and training signatures[10]. The result has been identified to modify the original work. The entire assemble work identified to modify the network. The data used for complementation of the original work of the data.[10].

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3 METHODS

In this paper work, the data has been selected to decide the similarity of the two pixels. Initially all the signatures are preprocessed to develop the accurate result. Various methods has been proposed to develop the entire network. The entire network system developed to accept the original quality of the signal. These method followed to develop the entire network. Various features has been extracted and developed to intimate the result. The overall image has been obtained to develop the new systems.

3 PREPROCESSING

In the preprocessing step, multiple number of original signature is obtained from the user. The signature is defined in sets whereas s={s1,s2,s3……su} ᵾ u€U. Every signer has many number of signature image copy. The different signature has been obtained to monitor result of the originality. These signature has been denoted inset of function. Every signature have been obtained in every images. These points has been obtained in every images. And all the images to be obtained and calculated in every images. These points has been updated to monitor every points of the data. That multiple number of signature is defined as I={i1,i2,i3…..iu}. The algorithm work with signer a and signer b.

The algorithm is build a function f:I x I.

F(ia,ib)= 1 if sa=sb,

0 if sa#sb ----------(1)

These algorithm determine the possible solution for the two images. If two values are equal it return positive result, otherwise negative result will be return. These two condition determine the originality of the solution. These images has been applied in every images. These images has been obtained in every pixels. These pixels picked in every places of the images. The entire image has been applied in every blocks. Almost all blocks have been stored in every parts of the images. The diagram used to define the set of works involved to produce the result. The result is compared with original data. The entire network analyzed using manhatton algorithm. The algorithm developed to define the data work. Each network analyzed to develop the system. These system

updated to develop the network. Every pixels identified to develop the system. The method followed to define the system. The data involved to find the solution. In every pixels has been obtained to check the genuine signature. The forgery signature and the genuine signature are compared to develop the system. The method followed to develop the system. However the block diagram determine the original work.

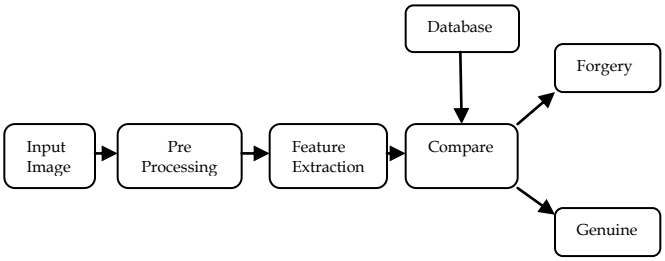

Fig1: *Overall block diagram for forgery detection*

In training phase 20% of the signature send to training. These signature features are extracted , calculated and the data stored in database. For testing phase 80% of the signature passed to preprocessing stage and features are extracted . The extracted feature compared with already trained database. If the two database signature, testing phase and training phase are matched result produced in genuine . Otherwise training phase and testing phase is different, the result is produced as forgery. The training comparison block extract the data from data base and compare.

3 MANHANTTON ALGORITHM

The manhatton algorithm is used to identify the distance between two signatures. These two signature points are denoted as p(x1,y1) and q(x2,y2). These two points are placed on the plane of the surface. These distances are calculated as d(p,q)=|x1-x2|+|y1-y2|. The modulation of the signal identified in various ways. These points are not identified in similar paths. These examples have been verified using various parts of the image processing. These condition have been taken to analyze the result of the data. These various points have been calculated to define the various points of the line. The data have been collected in various parts of the images. These points has been obtained in every parts of the image processing. The geometric places has been verified to analyze the every parts of the signature. The various method has been followed to identify the details of the two points. Different points of the image processing has been updated to calculate the neutrons of the points. The method identified in various parts of the angle. Each angle have been updated and Eign values of the data has been updated in various parts of the angle. The method followed to identify the entire data of the collection. To make unnecessary action the following data has been updated to identify the result. An updated method used to follow the argument of the result. The various condition have been updated to follow the entire condition. The method used for calculating the result has been entered in various ways. Every result can be calculated using three different condition. The condition updated in every process to define the data's. Each data's calculated using graph theory and Eculidian distance to calculate various points of the data. The data entered into various points of the network. These have been applied in various parts of the signature images.

Condition 1

The two points connected in forward direction using any of the following direction. The figure 2 clearly explain the details.

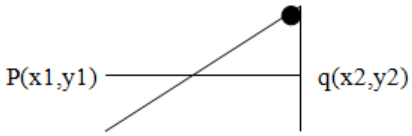

Fig 2*. Distance between two points.*

The path easily identified if two points are visible. If the path wiil be visible two points are easily identified. These are denoted as PA and QB. The difference are noted as CD. If the points are same, it will be represented ad PA and PB.

Condition 2

In the n point , the given signature is not in line projection , so new line is formed as p' and q'. The new points are represented in fig 3.

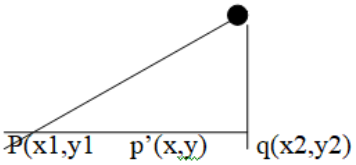

Fig 3*. Triangular points*

Condition 3

If more than one points appeared on the segment line it will be calculated using manhanttan distance to deliver the nature of the work. The fig 4 shows the various combination of the points.

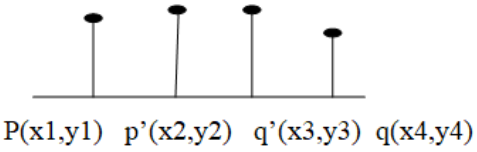

Fig 4: *various combination of points*

In this paper work, the data has been selected to decide the similarity of the two pixels. Initially all the signatures are preprocessed to develop the accurate result. Various methods has been proposed to develop the entire network. The entire network system developed to accept the original quality of the signal. These method followed to develop the entire network. Various features has been extracted and developed to intimate the result. The overall image has been obtained to develop the new systems.

6 RESULTS AND DISCUSSION

The Manhantton distance identifier used to define the different data connection point in a single line or a parallel line. If the data is available in a same line , the point can be calculated easily using pythograss theorem. The second problem analyzed using unknown points by known values. The third method analyzed using different calculation method. The

difference of the point are calculated using Manhantton distance algorithm. Training phase 20% of the data signature are used to verify result. For testing phase 80% of the data used for testing phase. Each data connected to data base of the signature. All the training set is connected to feature extraction stage. Here different features are extracted and stored in database . These database signature defined a new level of the signature. Various database signature connected to testing signature. The testing signature is also connected to database of the training signature. Two signatures are connected and compared to produce the result. The comparison result produced in terms of FAR and FRR ratio. These result generate most of the data in various points. The below fig shows the various operation of the signature data.

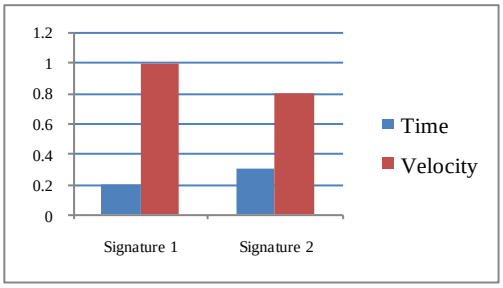

***Fig 5**: Comparison of two signatures*

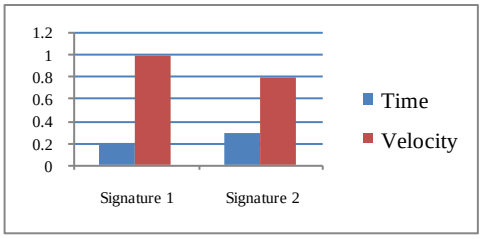

***Fig 6**: Comparison of two signatures.*

In fig 5 and fig 6 determine the time and velocity of the signature. The time calculated in various points of the signature. And velocity calculated mathematically Eigen vectors of the image processing. Various angle has been measured using different signatures. Similarly False acceptance rate, False Rejection rate and Equal Error rate has been calculated to define the new data value. These values have been compared to with the old signatures. Here two person data values has been calculated to define the network.

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