

An Intellectual System for Human Personality Identification Using Soft - Computing

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Abstract: *The personality play important role to identify leadership capability potential. Determine your staff member's leadership capability to the personality test. To find out who could people they should avoid and who could be great leadership is helped by personality assessments. There are many personality tests, and each with assorted approaches which are basically used to measuring intellectual and emotional characteristics. Now in this we will look at how can be identified potential leader and what the benefit and drawback are through personality test. As part of interview it use personality test for companies which becomes quieter widespread. you should use these personality tests the different type of people you need for diversity, because diversity is essential. It takes different types of people to develop a successful business. It is also good, however, to have some impartial thinkers who may notice that the rest of team misses. Similarly, there are many types of intelligence and it's beneficial to have people in your company who are smart in different ways.*

Keywords: Baseline, Slant, Preprocessing, Segmentation, Randomtransform, Houghtransform

1. Introduction

Handwriting analysis is a technique to modeling human activities are to judge the human as a device. There are very large numbers of human mental states and this handwriting analysis which used to determine the types of mental state. The research based on the result or observation that although human behaviors such as handwriting, speech, hand gestures and even American Sign Language. Handwriting work as an indicator, which indicates personality and behavior of humans, for example, interviewing, recruitment, selection, team-building, counseling, and career-planning. The need of human personality recognition is more important in the modern word. Through this human can simplify their jobs and they are able to solve typical problems. Graphology or Handwriting analysis both are the scientific scheme of recognizing, and distinguish behavior over the movements and patterns inform with the handwriting. During the ancient Indian civilization, it (handwriting analysis) was very common to identify the human behavior. In Graphology, handwriting process is analyzed through structural graphic elements in which the order to derive information about the writer's personality.

The writing pattern of any human comprises of the angle of the projection of the pen to that of the paper, degree of compression of the nib on to the paper, posture of the holding of the pen etc. in the personality identification ,An analysis system and method comprising the process of handwriting data collection and the analysis software which associated tools for diagnosing a given condition such as a spiritual illness, an illness, a physiological condition, a mental or emotional state, medication effect, a characteristic, a skill, an expertise, deception or truth writing.

The handwriting of a control group known to have a condition is analyzed in order to determine the measurable characteristic indicators of that group. This type of measured indicators comprise progressive, spatial and pressure measures for each writing stroke. The handwriting of a subject is analyzed to resolve if the stately indicators

designate statistically that the subject can be diagnosed with a condition. The two approaches basically used in graphology. I.e. The first approach is a graphical analysis of structural type and the second approach is an analysis of the type of symbol of the letter. This research has been to combine the two approaches. Handwritings and letters stroked are a type of writing that can describe the personality of a human. Several types, each letter is written. Meanwhile the use of handwritings is usually used to identify certain personality as with and bottom line, shapes or shell, appearance of dots.

The handwritings reveal so many things such as a mental problem, hidden talents, morality, health issue, past experience etc. Because when you write anything your hand guide your brain everything put on paper is a consequence of a two-way circuit between your the motor reflex muscles of your hand and brain. So, your handwriting analysis becomes a Oscilloscope or Polygraph read-out of your "complete self." To you, it's only handwriting, but to a handwriting forecaster, which shades a picture of the human being "behind the pen."

1.1 Methods of Falsifying

The man through the years has managed amounts of method to mimic fraudulent signature of a person or how to write it. Modern common methods for different types of forgeries are:

1. Tracing
2. Simulation Manual
3. Memory
4. Technical raising the writing forgery
5. Transfer of images electronic

The tracing a signature

Just it traces a genuine signature on a document. There are several methods for tracing. Let's see:

Tracing coal

This is done by inserting a carbon paper between genuine signature and forged document, gently tracing the genuine

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signature or handwriting with a pointed object or just a pencil or pen. The obvious result will be the traces of carbon that reflects the genuine signature or handwriting on the fraudulent document.

Tracing using light

By this means the genuine signature is placed under the fraudulent document and using some kind of light as natural light, the light of a light box, which will trace the genuine signature. A great similarity between this be observed method tracing and coal. Both have the same general characteristics as the genuine and both firms, will reflect the same characteristics in the quality of the line or lines that make the signature or handwriting. The only deference between the two is the medium used the coal and the use of light. This method is similar to the coal. The genuine signature is placed at an appropriate position on the false document. The genuine signature is carefully drawn with enough pressure , leaving an impression of it. Counterfeiting is completed passing over the fraudulent firm ink writing instrument like the pen.

The simulated fake hand

This method is drawing the outlines of a model of the genuine signature. The final result will depend on the artistic ability that makes the manuscript. When this firm is examined, it can be seen when it stops to trace the movements of the characters, showing misalignment with pressure, more or less shaky. This feature drawing gentle movements is present in both methods, when plotted or when a firm is simulated or written.

Imitation falsification by freehand

A fake freehand imitation is intended to write the signature of someone, without copying or imitating the habits of individuals. In this type of forgery, the writer usually conducts its own habits of writing and other examples from the counterfeiting written, you can identify the counterfeit document.

It is knowledge examiners usually between documents, which in any falsification, except the free hand, the writer has to fight two major obstacles:

1. Remove your own habit of writing.
2. Play the writing habits of the victim.

In the first case, the person does not know you have habits of writing, so it is not aware of them, and are difficult to remove. In the second case, the writing habits imitate someone else requires absolute concentration in writing and observe the details. Many counterfeiters have had success playing the basic form of the letters of others, but it is highly impossible to reproduce the movements that reflect the pulse, with the same level of fluency as was done in the genuine signature. It is therefore more difficult to imitate a written one with greater skill, a signature written by one without skill signature. Investigate cases of counterfeiting it requires knowledge and experience, especially when the fakes are made by means of simulation or drawn. When the simulated plotted firms are difficult inexperienced. Counterfeits can appear in many forms and can be found in many types of cases. The investigator must be familiar with the procedures required in basic research in forgery case.

Techniques for lifting counterfeiting

The signature and the writing of a person can be lifted from one document to another by different methods. A simple method involves lifting a firm with clear tape and transporting the false document. Another method is to put the signature of the person writing or other document through a photocopier using a transparency. The third method involves a computer using a scanner. The latter technique involves a computer personnel and printer of high quality, which makes it easier and less costly to duplicate legal documents and lifting checks. The result of this falsification is closer to the actual signature. All techniques for not being violent crime there is a low percentage of them to be processed. They are known as white collar crimes.

Writing in disguise

It has been scientifically proven one in ten people have the ability to hide their identity when writing. The person will try to hide their normal habits of writing, these acts are called writing disguise. There are many ways to hide the signatures.

Many forensic document examiners agree that the handwriting is disguised as one of the most difficult forms of review and analysis. The quality and type of examples are essential in writing. Both types of handwriting have normal characteristics in the writing of the business. The coroner can determine in an early study of writing, as was done counterfeiting and different examples that will provide you the opportunity to identify who wrote the paper.

The legal researcher begins his research by interviewing everyone including the suspect, asking for manuscripts and hand prints. At this point it has not had the opportunity to consult with a lawyer and often cooperate with the forensic investigators giving examples of scripts. The investigator determines that writing is altered combining the font used by hands, right and left, analyzing one at a time and at this stage is considered the writing instrument for comparararlo. The exception is when the document is a copy of a document. In many cases when compared with the original document that has been written with a common pen.

Handwriting exposes the true behavior, including the defenses, emotional outlay, fears and many other individual traits. Handwriting is referring to as intelligence or brain writing and each personality characteristic is represented by neurological or brain pattern. Each neurological or brain pattern produces a distinctive neuromuscular movement. And it is the same for every people who have that specific personality trait. When writing, these little movements occur instinctively. The Below figure 1.1 shows the psychological behavior of human through handwriting.

2. Literature Review

In our literature review, mainly will be focus on forensic techniques , which can provide evidence played a key role , especially in the fraud, identity theft and murder , as well as forensic experts to determine how the author, overbearing , among other qualities.

Huber RA, Headrick AM (2009) is determining Forensic investigators by using handwriting technology and these handwriting technologies are used to determine personality behavior of an individual. To check “job applications, marriage compatibility recruitment”. And career guidance, motivate workers, and child development” is used graphology like handwriting analyzing in different company [1]. It also pointed out that the development of environment, mental health, an individual's social status and cognitive abilities is part of a person's motivation to participate in aberrant behavior. And some, sociological biological and psychological theory has been used as the primary classification explains deviant behavior explained.

Delis and Coins et .al (2010) are researcher propose that when using individual factors to explain unexpected behavior, and in this experts must take into consideration the individual’s personality disposition, construction, level of psychopathic and self-control, of nature. An individual’s community development is said to be one of the biggest element in predicting aggressive criminal concert [2]. Contact for crime causation between imperfect social tendencies , you can also check the social practices and is an eccentric one's social environment or social relations formed in the conventional system for evaluation. To determine the characteristics corresponding to a particular handwriting personalization, expert study of different handwriting illustrations from unknown and known sources in large part. In addition to analysis of human handwriting samples to test, in the handwriting there have been recently developed to support in the handwriting experts to carry out the tedious task of many technologies. Various studies have confirmed that handwriting analysis personality assessment methods, the use of experimental science and technology.

In our study, we investigated the status of technology and how to assess a person's character be useful, these methods can help handwriting expert. Moreover, although these types of technologies are offered, so the handwriting assessment cannot be completely replaced by the automation system. Human interaction is still required for digitizing / processing because the scanned documents which can be evaluated.

3. Proposed Methodology

The Handwriting Analysis Term: there is some following term which is used in handwriting which is as follows

- a) Zones
- b) Connections
- c) Slant
- d) Spacing
- e) Margin
- f) Letter size
- g) A large middle zone
- h) Small middle zone
- i) Upper zone extension
- j) Speed
- k) Clarity
- l) Pressure

4. Proposed Algorithm

- Step1- Read the image.
- Step 2- Segmentation and preprocessing the image.
 - a) To find the vertical segmentation and horizontal segmentation.
- Step3- Feature extraction of the image
- Step4- To find out the skew angle and height of the three main handwriting zones.
 - a) Upper zone
 - b) Middle zone
 - c) Lower zone
- Step 5- To find out the statistics feature of the image.
- Step 6- To correct the slant angles.
- Step7- To Apply the Random or Hough Transform.
- Step 8- Apply the soft computing technique
- Step 9- Identify the personality of the writer

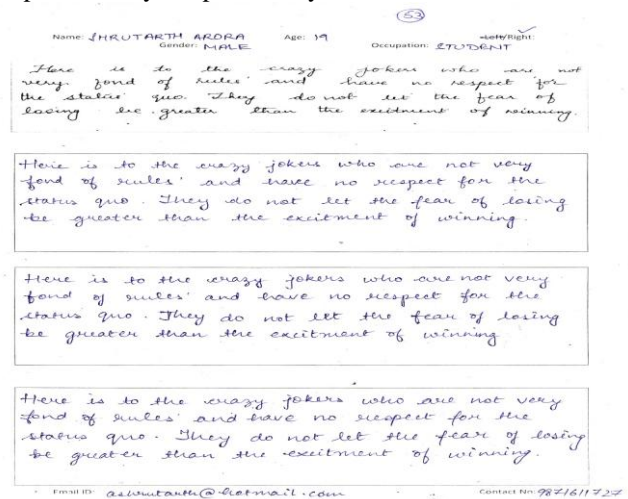
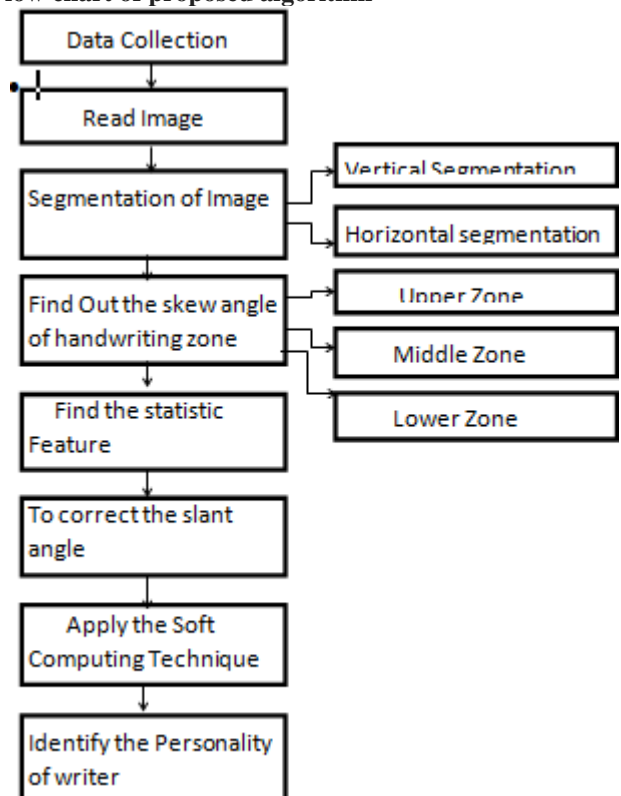


Figure: Collection of Dataset

Flow chart of proposed algorithm



Here is to the crazy jokers who are not very
 friend of rules and have to respect for
 the status quo. They do not let the fear of
 losing be greater than the excitement of winning.

Figure: Segmentation of the input image

Here is to the crazy jokers who are not
 very fond of rules and have no respect for
 the status quo. They do not let the fear of
 losing be greater than the excitement of winning
 lower zone

Figure: Feature of Lower Zone

In the above figure Skew angle is the angle between the X-axis and baseline. And it calculate the height of 3 major zones of handwriting. Using one of the methods described are based on the estimated baseline vertical histogram pixels Non-skewed method is only works by this method.

5. Result

The seven features of handwriting which are represented in the Table below. And these features extracted from handwriting sample which describe the behavior of person like Self Conscious, Too Reserved, independent sensitive, jealous, romantic.

Table 1: Seven features of handwriting	
<i>very-reclined</i>	1. Self Conscious
<i>Reclined</i> 	2. Too Reserved
<i>Vertical</i> 	3. Independent
<i>lightly inclined</i> 	4. Sensitive
<i>Inclined</i> 	5. Friendly
<i>very inclined</i> 	6. Jealous
<i>acutely inclined</i> 	7. Romantic

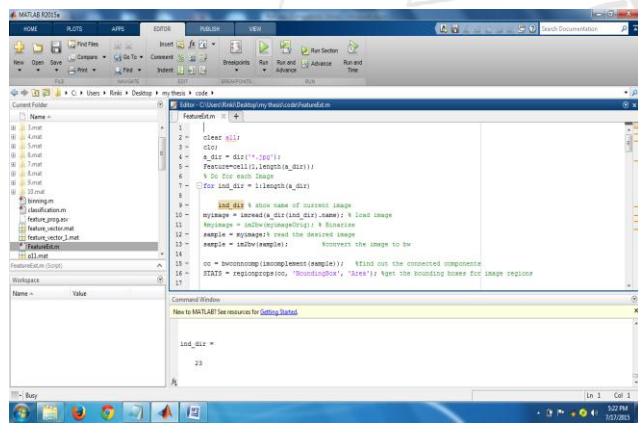


Figure: Finding the Features of Handwritten Samples

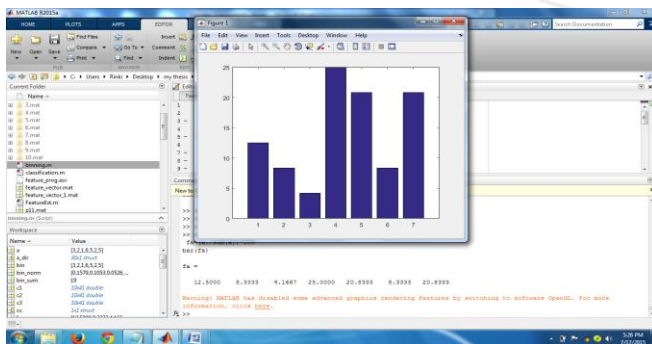


Figure: Feature Simulation Of Base Line Of Handwritten Sample

6. Conclusion and Future Work

In these technique features are extracted from images or text line that characterized an author and then used for personal identification. The need for security in different domains and the ability of biometric technologies to grant them make a good game to keep expanding and improving these techniques. In a world that is becoming increasingly automated day grows the desire to increase and improve methods of identification and authentication due to the current identity fraud that has a very high cost. One of the most fundamental questions we do is about how practical. It must be a biometric system or as discriminate information is available in the signal input. Unfortunately, these questions have been answered in a very limited way in all biometric modalities. This algorithm also can be implemented on the other language.

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