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Institute of Statistical Studies and Research

**HANDWRITING FOR PEN COMPUTERS
ON-LINE SIGNATURE VERIFICATION**

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و ما أوتيتم من العلم إلا قليلا.

سورة الإسراء - الجزء الخامس عشر

I certify that this work has not been accepted in substance for any academic degree and is not being concurrently submitted in candidature for any other degree.

Any portions of this thesis for which I am indebted to other sources are mentioned and explicit references are given.

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Abstract

The handwritten signature is commonly used to authenticate a financial transaction or manifest the contents of a document. Signature verification is usually done by visual inspection. However, automating the signature verification process will improve the situations where a signature is required and eliminate falsification. A wide range of methods for online signature verification has been proposed in the literature. On the other hand, the so-called *Support Vector Machine (SVM)* has been recognized as a powerful technique for pattern classification. In this paper, we developed an on-line signature verification system based on SVM. The system is then tested using a data set of sample signatures, which includes genuine and forgery signatures. The error rates obtained by applying the system on the proposed data set were promising and encouraging its application in the industry.

Keywords: Pen Computers, Pattern Classification, On-Line Signature Verification, Support Vector Machines.

Table of Contents

1. Introduction	1
1.1 The aim of the work	2
1.2 Thesis Layout.....	2
2. Pen Computers and Handwriting Recognition.....	3
2.1 Pen Computer.....	3
2.2 Pen Computer Components (Hardware).....	3
2.2.1 Displays	4
2.2.2 Digitizers	4
2.2.3 Processors.....	4
2.2.4 Batteries.....	5
2.2.5 Personal Computer Cards.....	5
2.3 Operating Systems	5
2.4 Handwriting Recognition.....	5
2.4.1 Handwriting Approaches	6
2.4.2 Natural Handwriting Recognition Features	8
Style Independence.....	8
Writer Independence.....	8
Lexicon Independence.....	8
Context awareness.....	8
Page/Layout awareness.....	8
2.4.3 Natural handwriting recognition approaches	8
Unistroke Characters	9
Boxed Input	10
Command and Control.....	10
Natural Input.....	10
2.4.4 Different Style of Text	10
2.4.5 Handwriting Recognition implementation approaches.....	12
Neural Network (NN).....	12
Support Vector Machines (SVMs).....	13
Fuzzy Logic.....	18
Hidden Markov Models (HMM).....	18
2.4.6 Character on-line recognition methods.....	19

Strokes.....	19
Recognition steps.....	19
2.4.7 On-line recognition methods for digits.....	20
Iterated Segmentation and Recognition.....	20
One-Step Segmentation Reconsideration.....	21
Use of Contextual Information.....	21
Segmentation by Recognition.....	22
2.4.8 Handwriting types for portable devices.....	24
Cursive handwriting.....	24
Natural printing.....	24
Constrained characters.....	25
2.4.9 Handwriting Recognition Techniques.....	25
3. On-Line Signature Verification Survey.....	27
3.1 Signature Types.....	28
3.2 Natural Variation.....	29
3.3 Verification.....	29
3.3.1 General Procedures.....	30
Enrolment.....	30
Pre-processing.....	30
Feature Extraction.....	32
Verification Methods.....	34
Threshold Selection.....	34
Matching Based Methods.....	35
Hidden Markov Model.....	36
Matching.....	36
Point-To-Point comparison.....	37
Statistical features (statistical parameters).....	38
Neural Classifiers.....	41
4. On-Line Signature Verification System using Support Vector Machines.....	44
4.1 Enrollement.....	44
4.2 Pre-pocessing.....	46
4.3 Feature Extraction.....	46
4.4 Verification.....	49
5. Experimental Results.....	51

6. Conclusions and Future Work	83
6.1 Concluding Remarks.....	83
6.2 Future Work.....	83
7. References	84

List of Figures

Figure 1: Examples of how to write strokes.....	5
Figure 2: On-line Vs Off-Line.....	6
Figure 3: Hybrid System	7
Figure 4: Handwriting difficulty	7
Figure 5: Unistroke characters	9
Figure 6: Machine printed and handwritten capital O's.....	11
Figure 7: Support Vector Machines Equations	15
Figure 8: Linear hyperplane	16
Figure 9: Non-Linear hyperplane.....	16
Figure 10: The various shapes of a handwritten character (z).....	20
Figure 11: Program flow for the iterated segmentation and recognition strategy	21
Figure 12: An example of a separation mistake being repaired by trying a new path	23
Figure 13: An example of recovery when separation should not have been done at all	24
Figure 14: Constrains Characters	25
Figure 15: Biometrics Types	27
Figure 16: Verification Procedures	29
Figure 17: Critical points.....	31
Figure 18: Alignment between points in two signatures of the same individual	37
Figure 19: Reject Option	42
Figure 20: Verification Stages.....	44
Figure 21: Palm OS Application	45
Figure 22: FRR dissimilarity.....	79
Figure 23: FAR dissimilarity.....	80
Figure 24: FRR error rate for forgery signature	81
Figure 25: FAR error rate for forgery signature.....	82