This is to certify that the

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A Comparison of Hidden Markov Model Features
for the Recognition of Cursive Handwriting

presented by

Scott Connell

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A Comparison of Hidden Markov Model Features for the Recognition of Cursive Handwriting

By

Scott Connell

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ABSTRACT

A Comparison of Hidden Markov Model Features for the Recognition of Cursive Handwriting

By

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Due to the difficulty of character segmentation in cursive handwriting recognition, much recent research has turned to segmentation free approaches of word recognition. While techniques of feature extraction for presegmented characters have been thoroughly explored in the literature, an evaluation of features for use with segmentation during recognition techniques remains sparse. The main purpose of this thesis is to provide a comparison of a number of feature extraction techniques applied to the domain of legal amount recognition in bank checks. An experimental system using Hidden Markov Models and a horizontally sliding window is described. Results are presented for the recognition of the entire legal field using a variety of features. Of the experiments presented here, the best results were obtained by concatenating the feature vectors from the present, previous, and next windows and using principal component analysis to reduce the dimensionality of this resulting vector.