

## **STOCHASTICALLY OPTIMIZED HANDWRITTEN CHARACTER RECOGNITION SYSTEM USING HIDDEN MARKOV MODEL**

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### **ABSTRACT**

Handwritten documents form the basis for communication. Due to large variations in the handwriting and the given ubiquity, it is difficult to recognize handwritten documents using machine. HMM models are used in identification, recognition and prediction system because they are very rich in their mathematical structure and thus forms a basis for quantitative proof. This paper proposes the application of augmented Hidden Markov Model for handwritten English character recognition. The model used here utilizes the pre-segmented and noise isolated images of the handwritten characters. After preprocessing, which includes the Binarization, Inversion and Skeletonization, local feature vector is extracted which is deployed for the use by the HMM. The experimental result shows that this augmented procedure is promising and yield more correct results than other conventional methods.

**KEYWORDS:** (HMM) Hidden Markov Model, Inversion, Local Feature Extraction