Preface

The challenging task to develop efficient handwriting recognition models has developed interest among researchers over the last few decades. The diverse and complicated nature of handwriting patterns makes it very difficult to develop computer programs which can efficiently digitize the patterns. Many bumps are there like preprocessing, segmentation and recognition of individual characters. Numerous researchers all over the world are trying to crack the hard nut of recognizing the handwritten patterns with ease and accuracy.

Different type of methods and tools are used to recognize handwriting patterns. But resemblance of Artificial Neural Networks (ANNs) with the cognitive thinking capability of human beings attracts many researchers to select this tool to develop handwriting recognition models.

The overall work emphasize on the development of different simple ANNs capable of identifying the handwriting patterns with optimized accuracy. The development of the work started from simple single layer ANNs to multiple layer ANNs by adding more layers to improve the accuracy. Different supervised and unsupervised approaches are tried out here.

Preprocessing and segmentation bumps are also taken care of by developing and using some preprocessing and segmentation methods.

An orderly discussion of various topics is covered in different chapters based on the thorough study of the literature, gap findings of classical ANNs, development of various preprocessing, segmentation and character recognition methods. Algorithms are also developed and discussed in different chapters in order to perform various task.

Rakesh Kumar Mandal

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