Abstract

The ultimate objective of any OCR is to simulate the human reading capability. Optical Character Recognition, usually abbreviated to OCR, is the mechanical or electronic translation of images of handwritten, typewritten or printed text into machine. Character Recognition refers to the process of converting printed Text documents into translated Unicode Text. The printed documents are scanned using standard scanners which produce an image of the scanned document. Lines are identified by an algorithm where we identify top and bottom of line and in each line character boundaries are calculated by an algorithm, using these calculation
characters are isolated from the image and then we will classify each character by basic back propagation. The back propagation algorithm works by what is known as supervised training. It first submits an input for a forward pass through the network. The network output is compared to the desired output, which is specified by a "supervisor" and the error for all the neurons in the output layer is calculated. The fundamental idea behind back propagation is that the error is propagated backward to earlier layers so that a gradient descent algorithm can be applied. Each image character is comprised of 30×20 pixels. In this paper we have used the Back propagation Neural Network for efficient recognition where the errors were corrected and rectified neuron values were transmitted by feed-forward method in the neural network of multiple layers.

Reference

6. Christopher M.Bishop"Neural Networks For Pattern Recognition" Department of computer Science and applied mathematics Aston University , Birmingham, UK Clarndon press, 1995.
7. Dong Xiao Ni Seidenberg," Application of Neural Networks to Character Recognition", CSIS, Pace University, May 4th, 2007, School of CSIS, Pace University, White Plains, NY.
Text based Image Recognition using Multilayer Perceptron

Index Terms

Computer Science  Communications

Key words

Back Propagation Algorithm  Character Recognition

Multi-Layer Perceptron

Supervised Learning