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Handwritten digit recognition system using neural network

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Abstract

Artificial Neural Networks surround optical character recognition as one of its parent applications in the field of artificial intelligence that behaves in its functionality like human thinking. In this paper a simple software system for the recognition of handwritten digits is presented that serves as a basic resource for beginners in neural networking and related disciplines. The system is developed by using highly simplified architecture of artificial neural network. Variant patterns of the same handwritten character related to different scripts or fonts were fed in the system. The system recognized these characters successfully and became 100% adaptive in nature.

Keywords: *Digit Recognition, Neural Network, Flip Flop, Recognition Quotient, Neuron.*

1. Introduction

Neural Network (NN) is parallel processing system information, which mimics the computational capabilities of the human nervous system by using highly interconnected processing elements called neurons or artificial neurons [4].

Artificial Neural Network (ANN) is a simplified model of the central nervous system. Its peculiar characteristics make them useful and attractive for many tasks such as optimization, image processing, diagnosis etc, which are foremost difficult to handle through conventional techniques [1].

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