Abstract

This paper proposes Neural Network architecture for implementing associative memory. A new model has been developed that has good learning structure and high storage capacity. Hybrid Network Learning comprises interactive counter propagation network and associative memory. Interactive counter propagation network is used for pattern completion. The associative memory
is applied for pattern association. Associative memory is content-addressable structure that maps a set of input patterns to a set of output patterns. Associative memory has been expressed in terms of Turing machine. Turing machine is a computing machine which is capable of finding the memory vector which most closely correlates to the input vector. It retrieves previously stored pattern that resembles the current pattern. The Turing machine structure is implemented using B-tree (Turing Tree). The experimental results show that the proposed approach has attained good performance in terms of speed and efficiency.

Reference

- Z. Wang, “A bidirectional associative memory based on optimal linear associative

**Index Terms**

Computer Science  Algorithms

**Key words**

Associative Memory  Learning  Training

Artificial Neuron  Patterns

B-tree  Turing machine