

Performance of Digital Associative Memory Model for Pattern Recognition

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Abstract

This article presents a digital associative memory DAM with pyramids of probabilistic logic nodes used as the basic processing element. The DAM can be applied to various pattern recognition systems or image classifiers. A reward/penalty error back propagation algorithm used to train the model will be described. Computer simulations are done to evaluate the performance of the model by training the network on associating a number of patterns from each class of the numerals 0--9 with their prototype model. The effect of the size of the training set on the convergence of the training algorithm is investigated.