Abstract

It is herein proposed a handwritten digit recognition system which biologically inspired of the large-scale structure of the mammalian neocortex. Hierarchical Temporal Memory (HTM) is a memory-prediction network model that takes advantage of the Bayesian belief propagation and revision techniques. In this article a study has been conducted to train a HTM network to recognize handwritten digits and letters taken from the well-known Hoda dataset for Farsi handwritten digit. Results presented in this paper show good performance and generalization capacity of the proposed network for a real-world big dataset.

References

2. Ping Zhang, Reliable recognition of handwritten digits using a cascade ensemble
The biologically inspired Hierarchical Temporal Memory Model for Farsi Handwritten Digit and Letter Recognition


40. A. Mowlaei, and K. Faez, "Recognition of isolated handwritten Persian/Arabic characters and numerals using support vector machines." pp. 547-554.


Index Terms

Computer Science

Pattern Recognition

Keywords

Handwritten digit recognition; hierarchical temporal memory (HTM); Hoda handwritten digits dataset.