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A Bootstrap-like Rejection Mechanism for Multilayer Perceptron Networks

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Abstract

Multilayer perceptron networks (MLP) are investigated with respect to the problem of the detection of spurious patterns. A novel mechanism is proposed based on the ideas of bootstrapping that when incorporated into the standard MLP provides the network with the ability to continuously modifying its responses across the input space. The mechanism makes use of the outputs given by the network itself during its recall phase to improve performance in the rejection of spurious inputs, through a scheme of reinforcement of the classification decisions taken by the network. A example of the operation of this mechanism is shown in the classification of handwritten characters.

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