

This work describes the advantages and disadvantages of using neural networks for pattern recognition. Several neural network models are described and their use for pattern recognition is demonstrated. Standard multi-layered perceptron model is compared to a more sophisticated convolutional network model. A new network model is introduced, which is inspired by the convolutional networks and aimed at rectifying some of their shortcomings. The work describes results of tests performed with the described network model on the problem of recognizing hand-written digits.