

Procházka A, Vyšata O, Mareš J: Neural Networks in Pattern Recognition

The algorithm allows classification of column vectors $\mathbf{p}(:,k)$ forming the feature matrix

$$\mathbf{P} = [\mathbf{p}(:,1) \ \mathbf{p}(:,2) \ \dots \ \mathbf{p}(:,M) \ \mathbf{p}(:,M+1) \ \dots \ \mathbf{p}(:,Q)]$$

for known target values assigning each vector to one of two categories evaluating ACCURACY, optimal CRITERION VALUE for data separation, CONFUSION MATRIX and ROC curves for evaluation of results.

The proposed method is based upon the two layer neural network with sigmoidal transfer functions in each layer. The algorithm is written in the MATLAB environment.

Data file FEATURES.mat includes features obtained for two sets of biomedical EMG data obtained for healthy and neuropatic individuals.