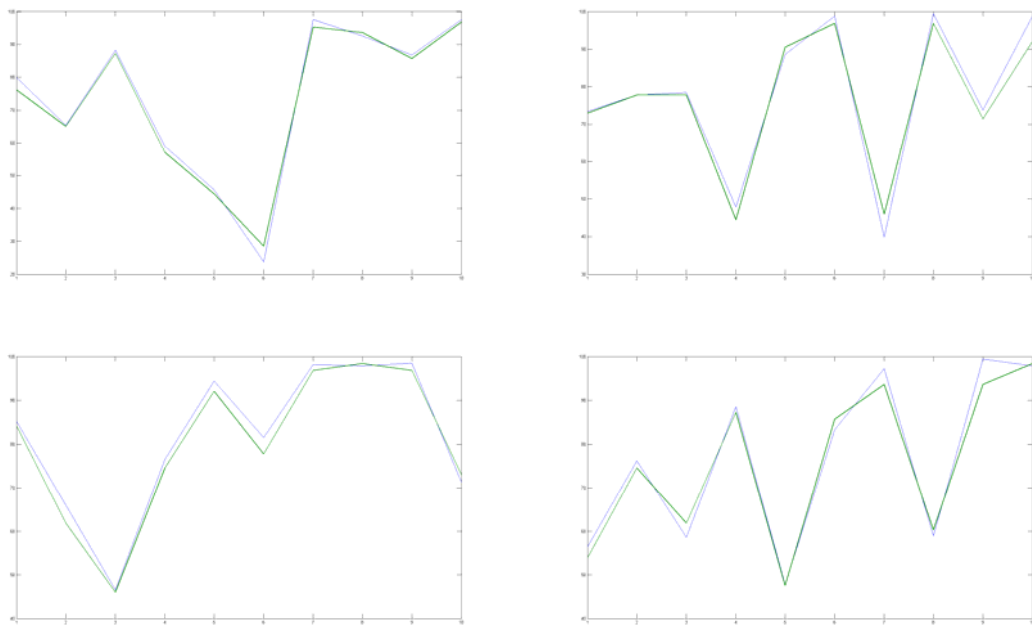


2) The principal component analysis can be applied to the original data set to reduce its dimensionality.

## 2. Multilayer perceptron adjustment

While adjusting the number of neurons in hidden layers of multilayer perceptron the results of grid search appear not unique. For example, for a single hidden layer the plots of the correct classification function versus number of neurons are different each time the search is performed:



This probably happens because on every search run the training is finished in a different local minima of network performance function.

Applying a different network training function doesn't solve the problem. Still, the BFGS algorithm is used for training instead of standard Levenberg-Marquardt algorithm, because the training is performed slightly faster.