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Section:

17. Control Theory and Optimization

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Neural Network Optimization with Genetic Algorithm

Genetic algorithm is used to optimize the neural network structure. Neural network is designed to recognize printed and handwritten symbols and words. The selection of informative features is connected with feature sorting tasks. Genetic algorithm realization is time consuming procedure. To accelerate it we have used neurocomputer. The feature set includes the most typical elements of image. There may be segments of line with different angles of slope, arcs with different radii, crossing of segments. The most effective procedure of informative features extraction is optimization procedure, when parameters space is binary space of feature presence or absence, and objective function includes probability of correct recognition, features number and complexity of their calculation. It is discussed the results of experimental investigation.