

ABSTRACT

The thesis is presented in 51 pages. It contains 2 appendixes and bibliography of 12 references. Twenty figures and 4 tables are given in the thesis.

The purpose of the thesis is to improve accuracy in the musical pieces genre classification, through the creation of the corresponding automated system. This in turn increases the effectiveness of musical recommendation systems by providing them with data about genres.

The thesis analyzes existing solutions to the stated problem, namely, regression analysis, single- and multi-layered artificial neural networks, and multilayer neural networks with a genetic algorithm. Their comparison is made from the point of view of the accuracy of the received solutions, efficiency of the algorithms. For the solution of the problem at hand, artificial neural networks with genetic algorithm are selected.

An artificial neural network was created, which is trained using a genetic algorithm to classify genres of musical compositions. An automated system implementing the chosen method is developed. The tests of the developed system are carried out.

Keywords: information technologies, artificial neural network, genetic algorithm, genre classification, musical composition.