

ABSTRACT

The thesis is presented in 37 pages. It contains 2 appendixes and bibliography of 21 references. 2 figures and 2 tables are given in the thesis.

The goal of the thesis is to develop mathematical and software tools for solving the problem image classification.

In the thesis, existing solutions are analyzed, such as artificial neural networks, libraries are deigned to deep studying and can be used to detect visual images.

Done comparing them in terms of the accuracy of the resulting solutions, the efficiency of algorithms. To solve the problem in the autoencoder chosen in a library which was written based on the algorithm chosen TensorFlow

Keywords: deep learning, autoencoder, image classification, feature vector, MLP, softmax.

