

The thesis: 76 p., 35 fig., 7 tabl., 16 sources and 2 appendices.

The theme of this thesis is "Recognition using convolutional neural networks".

The purpose of this thesis is develop image recognition system using convolutional neural network for recognize following classes: plane, car, bird, cat, deer, dog, frog, horse, boat, truck.

Thesis results:

- Proposed an architecture of convolutional neural networks for object recognition of images;
- Performed a comparative analysis of this architecture and other methods of recognition;
- Using this architecture as a base, image recognition system was developed.

The results of this work are recommended in the information management and classification systems. In further research of this topic it is reasonable to increase the amount of objects for recognition, to expand the sample size for the learning and complicate the architecture of the neural networks.

CONVOLUTIONAL NEURAL NETWORK, OBJECT RECOGNITION,  
OBJECT CLASSIFICATION.