

ABSTRACTS

The theme: “Deep neural networks for facial recognition”.

Diploma work: 106 p., 31 fig., 8 tabl., 5 appendixes, 14 bibliographic references.

CNN, TDE, TRIPLET LOSS, FACIAL RECOGNITION, DIRECTED GRADIENTS.

Object of research – photo of faces.

Subject of research – methods for recognizing people on the photo.

Purpose of the work – to analyze the existing methods for facial recognition and to investigate the effectiveness of facial recognition.

Methods of research – triplet loss and eigenvectors, elastic graphs and hidden Markov’s models methods, Viola-Jones and directed vector’s histogram methods.

Relevance – facial recognition is increasingly used to identify a person and search for related information. A striking example is the problem of security systems in places of mass gathering of people, where, as last years have shown, there is a potential threat to terrorism.

Results of the work – was investigated and built the best model for the moment, based on neural networks. A web-based service was developed that provides a person's name on the photo. A step-by-step guide for setting up the model is provided. Also, the results of the developed model were investigated and a comparison with the model based on the method of the main components was made.

Ways of further developing the subject of research – it is possible to improve the results of work by teaching a more complex and, therefore, a more precise neural network that potentially has a better ability to recognize people.