SUMMARY

Robulets I.V. «Face recognition using deep learning networks»

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The aim of this work is to develop software for face detection using advanced models of deep learning, investigate work of used models for face recognition tasks.

The first chapter describes the subject area, in other words the basic concepts, principles and architecture of deep learning. The chapter also contains a review of current deep learning architectures, best performing image recognition and face recognition in particular.

The second section contains information about the work carried out in the study. This section describes the procedures for training and evaluation of investigated deep learning models, structure of test and training data, configuration of training parameters, the results of the trained classifiers, their evaluation and analysis.

The third section describes software that implements described in the second chapter procedures of training, evaluation and work demonstration of the trained models. The section describes the main modules of the program and user interface.

The conclusions based on the results obtained in the work were made. The best face identification accuracy was achieved using the model Inception-ResNet-V2. Inception-V4 and ResNet-V2 152 models showed almost the same accuracy and at the same time ResNet-V2 152 model showed the best training speed. The results can be used by engineers as a guideline for selection deep learning network architecture and training configuration of it in scope of face identification tasks. Also, the work can be used as a platform for further research of deep learning architectures on face recognition tasks.