

ABSTRACT

Master's Thesis: 68 pages, 12 figures, 25 tables, 18 sources.

Comparative analysis of different image comparison approaches as part of the proposed automated decision support system for automated visual testing has been performed.

The purpose of the proposed system is to compare images and find differences in style, to improve the quality of the visual testing system.

The object of the study is to build a visual testing system using machine learning methods.

The subject of the study is images of the interface obtained during the work of other programs.

The system performs testing in several stages: text selection, image comparison without text, text comparison and overall result. A convolutional neural network lets you highlight text in an image and classify selected text. The purpose is to isolate the borders of a character and remove it from the overall image. Several character recognition options were considered for this purpose, namely: character recognition, text recognition.

The implementation of this concept has been done and tested using an open dataset. Separating the text from the image and analyzing it separately from each other showed more accurate results with fewer errors on the character outline. Further research may include the use of more sophisticated models for text selection, and the development of more sophisticated metrics to evaluate the results of such models.

VISUAL TESTING, TEXT RECOGNITION, CONVOLUTIONAL NEURAL NETWORKS, FONT SMOOTHING, AUTOMATIC TESTING