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On methods of the transfer learning in the classification of the biomedical images

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In this paper, computer studies of the effectiveness of the use of transfer learning methods for solving the problem of recognizing human brain tumors based on its MRI images are carried out. The deep convolutional networks VGG-16, ResNet-50, Inception_v3, and MobileNet_v2 were used as the basic models. Based on them, various strategies for training and fine-tuning models for recognizing brain tumors on a data set are implemented... Analysis of their performance indicators showed that the strategy for fine-tuning the ResNet50 model on an extended data set brought higher accuracy values, F1-metrics compared to other basic models. The best classification quality is achieved with transfer training on the VG 16 model with an accuracy of 95%.

Summary

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