

Summary

CNN	CNN-P	KNN	KNN-P	NN	NN-P
98.9%	97.0%	86.2%	84.7%	95.4%	84.9%

Legend:

<MODEL-NAME> - Model with preprocessing applied to images

<MODEL-NAME-P> - Default model without preprocessing

In this project, I decided to change the approach to the problem due to the nearly ideal image database. All the photos were in sufficiently high resolution, of the same size, and were taken on a green screen. I decided to use the ready-made database as the "modified" one, and I myself was modifying the images to make them more difficult to learn in order to test the algorithm's performance. With the default database, the results were very high. After changing the colors from green to black and from skin color to white - the algorithm achieved slightly worse results. It was visible that at times it had problems with classification, but it still maintained a level close to 90%. Of course, in the case of KNN and standard NN networks, I had to scale the images down to 30x30 pixels, as data processing would take a very long time. Despite this, in my opinion, the algorithms handled it really well. The only algorithm that achieved better results after the preprocessing was the KNN algorithm.