

ABSTRACT

Skin is one of the most important organs of the human body. The skin has a function to cover internal organs such as muscles and other cells in the body. Facial skin is a part of the body that often gets extra attention because it affects a person's appearance. Detection of facial skin type is needed to know the type of facial treatment that should be done. Skin care on the face that suits a person's skin type is also very important so that facial skin remains healthy.

In this final project, we discuss how to detect facial skin types in humans using the Convolutional Neural Network method of MobileNet architecture. In this method, data testing will be carried out after going through the training process. After feature extraction, skin types will be classified based on normal, dry, oily, and combination facial skin types.

This facial skin type detection study was tested by six parameters as a benchmark for the results of the four skin types, namely normal, oily, dry, and combination. The best test results are obtained when the image size is 224x224, the Adamax optimizer, the learning rate is 0.0001; epoch 100, batch size 16, and n-fold 3 resulted in 93.14% accuracy; loss 0.2565; precision 93.25%; recall 93.25%; and F1-Score 93%.

Keywords: CNN, Convolutional Neural Network, MobileNet, Facial Skin Detection, Facial Skin Type