ABSTRACT

Sinatrio Bimo Wahyudi.56418732

IMPLEMENTATION OF CONVOLUTIONAL NEURAL NETWORK BASED ON TENSORFLOW FOR ACNE TYPE CLASSIFICATION USING MOBILENETV2 ARCHITECTURE

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Keywords : Machine Learning, Computer Vision, Convolutional Neural Network, Tensorflow, MobileNetV2, Image Classification, Image Augmentation, Image Processing, API.

(xcix + 99 + appendices)

Acne is a condition where skin pores become blocked, resulting in inflamed pus-filled lesions. Causes include hormonal changes during puberty, stimulating oil glands, menstrual cycle effects, and stress. Acne sufferers often struggle with ineffective treatments leading to inflammation due to varied acne types requiring different approaches. Dermatologists may face difficulty identifying acne due to similarities. Technological approaches, like deep learning, aid in acne prediction. Convolutional Neural Networks (CNN) classify acne types like human vision. Utilizing MobileNetV2 architecture addresses computational resource needs while maintaining performance, suitable for mobile use. Model evaluation yields 90.6% accuracy. An application facilitates classification by uploading images converted to base64 format, easing model workload and speeding up data training.

Bibliography (2012-2020)