

## ABSTRACT

**A.Muh Alief Anugrah**, IMPLEMENTATION OF CNN ALGORITHM IN DETERMINING FACE SHAPE TO ADJUST HAIRCUT MODEL (Supervised by Titin Wahyuni and Fahrir Irhamna Rachman)

Appearance, particularly hairstyle, plays a crucial role in shaping self-confidence and self-image. This research discusses the implementation of the Convolutional Neural Network (CNN) algorithm to identify face shapes and provide suitable men's haircut recommendations. The objective of this study is to develop a web-based system capable of automatically detecting the user's face shape and suggesting appropriate hairstyles.

The research methodology includes collecting a facial image dataset, performing image pre-processing, training the CNN model, and evaluating its performance. The dataset is divided into training and testing sets, with data augmentation techniques applied to enhance data variation. The CNN model consists of several convolutional layers, pooling layers, and fully connected layers to classify face shapes into specific categories.

The test results show that the developed system can classify face shapes with high accuracy and provide relevant haircut recommendations. This system can help users choose suitable hairstyles without the need for direct trials.

Keywords: CNN, face shape, men's haircut, image classification, recommendation system