

**APLIKASI REKOMENDASI MODEL POTONGAN RAMBUT
BERDASARKAN BENTUK WAJAH MENGGUNAKAN METODE HAAR
CASCADE CLASSIFIER K-MEANS CLUSTERING** *Application of Haircut
Model Recommendations Based on Face Shape Using the Haar Cascade
Classifier K-Means Clustering Method*

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ABSTRACT

Cutting hair is currently a trend among men. Many models of the latest haircuts. The hairstyle can also be a description of the character of that person. Sometimes the results of the hairstyles obtained are suitable, but there are also many results of hairstyles that do not meet expectations. From the survey results, 70.3% of the respondents were dissatisfied with the results of the haircut they chose, and 30.3% of the dissatisfaction was due to the incompatibility of the chosen haircut with the shape of their face. To overcome this problem, a decision support system is needed to determine the face shape model that matches the customer's face shape. The method used initially was k-means clustering where the results using this method were very low, therefore there were other candidate methods namely naïve Bayes, random forest, and convolution neural network. From this method, naïve Bayes got a percentage lower than 60% and random forest get the maximum percentage value at 64%, and for the convolution neural network get the highest percentage up to 95% in accuracy of training data and for data testing get a percentage of 93% and for manual trials get a percentage of 90%.

Keyword: *Hiarcut, Face Shape, K-Means Clustering, Convolution Neural Network,*