Rule-based Facial Makeup and Professional Beauty Tip Recommendation System using Image Processing

DIN Dahanayake#, DU Vidanagama

Department of Information Technology, Faculty of Computing General Sir John Kotelawala Defence University, Sri Lanka

Abstract. Makeup can consider as a tool of self-expression just like the painting visualizes its artist's expressions. According to beauty experts, wearing makeup awakes the individual's inner beauty and increases one's self-esteem by making one feel more physically appealing, boosting confidence, and enhancing personality. In any situation, makeup makes it easier for women to blend in. The facial look is greatly influenced by the facial makeup, which makes the face appear more lovely and attractive. Since it requires a skilled artist to select the right makeup look for a particular face and event, individuals frequently choose their makeup from magazines or the internet without taking into account whether it would appear good on them. Additionally, predicting how the face will appear after using the suggested makeup style demands a high level of creativity. An automated women's facial makeup and beauty tips recommendation system is suggested in this research as a computational solution to this issue. The proposed approach models the relationship between facial characteristics and makeup style attributes as well as occasions such as daily makeup or heavy makeup taking into consideration. The system begins to process when a user uploads a portrait image. Classification of the makeup-related facial traits that makeup artists consider deciding the makeup style is done using the 'Betaface API' which has the ability to figure out 22 basic facial points of the woman. Face shape is identified through the OpenCV Haar-like feature. Then the knowledge base contains specific rules and recommends a makeup look for a particular occasion.

Keywords: *facial landmarks, facial makeup recommendation, image processing*