

# **Outfit classification and recommendation based on integrated features and bagged decision tree**

## **ABSTRACT**

Outfit classification and recommendation is increasingly important with the rapid growth of user. It is often hard to manage our clothes, especially when we are having too many of them. Sometimes, this could be to the extent where we might even forget the existence of certain clothes that we have. Besides that, some of us may face some decision difficulties in pairing suitable outfit for the day due to poor color coordination or styling knowledge. The objective of this work is to introduce a clothes classification and outfit recommendation framework. We first construct the color information of the clothes by extracting and calculating the mean of the RGB color space. Shape representation is obtained by constructing several shape signatures. These contentbased representations are then trained by Bagged Decision Tree for clothes classification. Through color and shape-based matching, the framework can then recommend suitable top or bottom clothing to a user when given a clothes image as the query. We have conducted classification accuracy experiment and user-acceptance testing. Positive results have been obtained for both evaluation approaches.

**Keyword:** Bagged decision tree; Clothes classification; Color-shape; Outfit recommendation