Klasifikasi Citra Alas Kaki Menggunakan KNN dan Leave One Out Cross Validation

Mayang Sari[1], Wikky Fawwaz Al Maki[2]

[1,2]Fakultas Informatika, Universitas Telkom, Bandung
[1]sarimayang@student.telkomuniversity.ac.id, [2]wikkyfawwaz@telkomuniversity.ac.id

Abstract

Footwear is a tertiary need for humans in this world. The world of fashion will continue to evolve over time, including the development of footwear fashion. In addition, based on the Criminal Investigation Agency of the Republic of Indonesia, footwear can be used as evidence of a crime, and can be used to identify a crime. Computer vision still has difficulty categorizing fashion, despite the fact that fashion plays a huge role in everyday life. Therefore, footwear image classification will be applied to help identify crimes and meet human needs in categorizing desired footwear and can be used to identify potential suspects, identify brands and models of shoes found at crime scenes. A series of methods are applied starting from pre-processing, HOG feature extraction, edge detection of the Canny Edge algorithm. To improve the accuracy of KNN classification, the method applied is Leave One Out Cross Validation (LOOCV), which results in an increase in accuracy of 4%, from 94% previously using KNN alone and with a combination of KNN and LOOCV produces the highest accuracy of 98%.

Keywords: footwear, image classification, KNN, LOOCV