

## ABSTRAK

Penelitian ini mengembangkan sistem klasifikasi citra penyakit kulit dermatologi menggunakan metode Naïve Bayes dengan tujuan mendukung diagnosis yang lebih cepat dan akurat. Dataset yang digunakan terdiri dari 4.800 citra dari enam kategori penyakit acne, campak, eczema, vitiligo, kulit normal, dan molluscum contagiosum yang diperoleh dari Kaggle, ISIC, dan DermNet. Proses penelitian meliputi preprocessing seperti resize  $256 \times 256$  piksel dan konversi grayscale, terdapat dua proses augmentasi citra yaitu *Random Brightness Contrast* dan *Sharpen*, serta ekstraksi fitur menggunakan *Matrix*, *Local Binary Pattern*, dan *Hue Saturation Value*. Pengujian dilakukan pada tiga rasio data latih-uji yaitu 60:40, 70:30, dan 80:20. Hasil penelitian menunjukkan bahwa metode Naïve Bayes menghasilkan akurasi sebesar 42% dengan *macro average F1-score* 0,41–0,43, mengindikasikan keterbatasan metode ini dalam membedakan penyakit kulit yang memiliki kemiripan visual tinggi. Untuk hasil akurasi dari *confussion matrix* sebesar 80,59%.

**Kata kunci:** Penyakit kulit, Klasifikasi citra, Naïve Bayes, GLCM, LBP, HSV, *Machine learning*.

## ABSTRACT

This study develops a dermatological skin disease image classification system using the Naïve Bayes method to support faster and more accurate diagnosis. The dataset consists of 4,800 images across six disease categories: acne, measles, eczema, vitiligo, normal skin, and molluscum contagiosum obtained from Kaggle, ISIC, and DermNet. The research process includes preprocessing steps such as image resizing to 256×256 pixels and RGB-to-grayscale conversion, two image augmentation techniques namely Random Brightness Contrast and Sharpen, as well as feature extraction using Gray Level Co-occurrence Matrix (GLCM), Local Binary Pattern (LBP), and Hue Saturation Value (HSV). Testing was conducted on three training-to-testing data split ratios: 60:40, 70:30, and 80:20. The results show that the Naïve Bayes method achieved an accuracy of 42% with a macro average F1-score of 0.41–0.43, indicating limitations of this method in distinguishing skin diseases with high visual similarity. The accuracy result obtained from the confusion matrix reached 80.59%.

**Keywords:** Skin disease, Image Classification, Naïve Bayes, GLCM, LBP, HSV, Machine Learning.