ABSTRAK

Penelitian ini bertujuan untuk mengklasifikasikan penyakit kambing berdasarkan data gejala dan data klinis menggunakan algoritma *Random Forest*. Permasalahan yang dihadapi adalah rendahnya akurasi diagnosis akibat kemiripan gejala antar penyakit. Dataset diperoleh dari *Kaggle* dan difokuskan pada data kambing sebanyak 10.348 setelah pra-pemrosesan. Tahapan penelitian meliputi seleksi data, pembersihan data, transformasi, pembagian data, pelatihan, dan evaluasi model. Model dilatih menggunakan 80% data latih dan diuji menggunakan 20% data uji. Hasil penelitian menunjukkan bahwa algoritma *Random Forest* mencapai akurasi sebesar 94,88% dengan nilai *precision, recall,* dan *f1-score* yang tinggi. Namun, performa pada kelas *lumpy virus* dan *pneumonia* lebih rendah akibat kemiripan gejala. Secara keseluruhan, model *Random Forest* berhasil melakukan klasifikasi dengan baik dan dapat digunakan sebagai alat bantu diagnosis penyakit kambing.

Kata kunci: gejala, klasifikasi, *machine learning*, penyakit kambing, *random forest*

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ABSTRACT

This study aims to classify goat diseases based on symptom and clinical data using the Random Forest algorithm. The main problem is the low diagnostic accuracy caused by similarities in disease symptoms. The dataset was obtained from Kaggle and filtered into 10,348 goat records after preprocessing. The research stages include data selection, cleaning, transformation, data splitting, model training, and evaluation. The model was trained using 80% of the data and tested on the remaining 20%. The results show that the Random Forest algorithm achieved an accuracy of 94.88%, with high precision, recall, and F1-score values. However, lower performance was observed in the lumpy virus and pneumonia classes due to similar symptom patterns. Overall, the Random Forest model performs well and can be used as a decision-support tool for goat disease diagnosis.

***Keywords**: symptoms, classification, machine learning, goat disease, random forest*

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