

INTISARI

PERBANDINGAN ALGORITMA DECISION TREE, NAÏVE BAYES DAN SUPPORT VECTOR MACHINE DALAM MENDETEKSI KASUS STUNTING PADA BALITA

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Stunting merupakan salah satu permasalahan kesehatan masyarakat yang serius di Indonesia dan berdampak jangka panjang terhadap tumbuh kembang anak. Penelitian ini bertujuan untuk membandingkan performa tiga algoritma klasifikasi, yaitu Decision Tree, Naïve Bayes, dan Support Vector Machine (SVM), dalam mendeteksi kasus stunting pada balita. Data yang digunakan berjumlah 7.573 record dan diperoleh dari platform Kaggle. Proses penelitian meliputi data preprocessing, exploratory data analysis, dan pemodelan menggunakan ketiga algoritma tersebut. Evaluasi model dilakukan dengan menggunakan metrik akurasi, presisi, recall, dan F1-score. Hasil penelitian menunjukkan bahwa SVM memiliki akurasi tertinggi sebesar 80%, sementara Decision Tree unggul dalam precision (82%), recall (91%), dan F1-score (87%). Berdasarkan keseluruhan metrik evaluasi, Decision Tree dipilih sebagai algoritma terbaik dalam mendeteksi risiko stunting karena memberikan hasil yang paling seimbang dan andal.

Kata Kunci: Stunting, Klasifikasi, Machine Learning.

ABSTRACT

COMPARISON OF DECISION TREE, NAÏVE BAYES, AND SUPPORT VECTOR MACHINE ALGORITHMS IN DETECTING STUNTING CASES IN TODDLERS

By

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Stunting is one of the most serious public health issues in Indonesia, with long-term impacts on children's growth and development. This study aimed to compare the performance of three classification algorithms Decision Tree, Naïve Bayes, and Support Vector Machine (SVM) in detecting stunting cases among toddlers. The dataset consisted of 7,573 records obtained from the Kaggle platform. The research process included data preprocessing, exploratory data analysis, and model development using the three algorithms. The model evaluation used accuracy, precision, recall, and F1-score metrics. The results showed that SVM achieved the highest accuracy at 80%. Meanwhile, the Decision Tree outperformed the others in terms of precision (82%), recall (91%), and F1-score (87%). Based on the overall evaluation metrics, the Decision Tree algorithm was identified as the most reliable and balanced model for detecting stunting risk.

Keywords: Stunting, Classification, Machine Learning