UNIVERSITAS BINA NUSANTARA

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APLIKASI LEADS MANAGEMENT BERBASIS MACHINE LEARNING MENGGUNAKAN ML.NET LIBRARY

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ABSTRACT

The objective of this research is to develop a Machine Learning-based application for lead management using the Decision Tree algorithm to enhance efficiency and responsiveness in marketing at PT. Modesta Desain Indonesia. The research methodology involves problem identification through user interviews, algorithm development, application implementation using ML.Net and .Net Core, and model performance evaluation. The results demonstrate a macro accuracy of 0.7366, a micro accuracy of 0.8602, and a Log Loss of 0.3338 with a Log Loss Reduction of 64.98%, indicating superior performance compared to the baseline. The conclusion of this study is that a Machine Learning-based application with Decision Tree can significantly improve the efficiency of the lead management process, particularly for the marketing department. Keywords: lead management, machine learning, decision tree, accuracy, lead conversion.

Keyword : Decission tree, leads management, machine learning

SDG : 9

ABSTRAK

Tujuan penelitian ialah mengembangkan aplikasi berbasis Machine Learning untuk manajemen leads menggunakan algoritma Decision Tree guna meningkatkan efisiensi dan responsivitas marketing di PT. Modesta Desain Indonesia. Metode penelitian meliputi identifikasi masalah melalui wawancara pengguna, pengembangan algoritma, implementasi aplikasi menggunakan ML.Net dan .Net Core, serta evaluasi kinerja model. Hasil yang dicapai menunjukkan makro akurasi 0,7366, mikro akurasi 0,8602, dan Log Loss 0,3338 dengan Log Loss Reduction 64,98%, menunjukkan performa yang lebih baik dibandingkan baseline. Simpulan yang didapatkan penelitian ini adalah aplikasi berbasis Machine Learning dengan Decision Tree dapat dengan signifikan meningkatkan proses manajemen leads lebih efisien terutama untuk devisi marketing kepada konsumen. Kata kunci: manajemen leads, machine learning, decision tree, akurasi, konversi leads.

Keyword : decision tree, manajemen leads, mesin pembelajaran

SDG : 9