

ANALISIS IMPLEMENTASI ALGORITMA LEARNING VECTOR QUANTIZATION 3 TERHADAP KLASIFIKASI PENENTUAN PENERIMA BANTUAN LANGSUNG TUNAI DESA

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Abstract

The Direct Cash Assistance (BLT) program in Indonesia aims to reduce poverty and improve welfare. However, the recipient selection process often faces social bias, undermining objectivity. This study develops a classification system using the Learning Vector Quantization (LVQ) 3.0 algorithm to support a fairer selection process. The data includes 100 potential recipients from Kelapapati Village, divided into 80% for training and 20% for testing. Parameters include age, education level, home ownership, electricity usage, and water source. Evaluation was conducted using K-Fold Cross Validation to assess algorithm accuracy. The system was tested with various Learning Rate values (0.01; 0.025; 0.05; 0.075; and 0.1) and Window values (0.2; 0.3; 0.4; and 0.5). Results indicate that the LVQ 3.0 algorithm effectively classifies data with 86,22% accuracy, making it suitable for BLT recipient selection. Adding more diverse data is recommended to enhance the system's pattern recognition capability.

Keywords: Direct Cash Assistance, Data Classification, K-Fold Cross Validation, Learning Vector Quantization 3.0, Poverty Alleviation.