

Analysis of the C5.0 Algorithm in the Classification of Dengue Hemorrhagic Fever (DHF) at dr. H. Koesnadi General Hospital Bondowoso

Bakhtiyar Hadi Prakoso, S.Kom, M.Kom. (Supervisor)

Yesi Navisa

*Health Information Management Study Program
Department of Health*

ABSTRACT

Dengue Hemorrhagic Fever (DHF) is still a serious health problem in Indonesia with a high rate of illness and death. Determination of the severity of dengue fever is essential for proper therapy, but manual classification often gives rise to subjectivity. This study applied the C5.0 algorithm for the classification of dengue fever using 464 medical record data of inpatients at dr. H. Koesnadi Bondowoso Hospital in 2023 with 14 variables. The research stages include data selection, preprocessing, transformation, and data mining using the R programming language. Evaluation with confusion matrix resulted in an accuracy of 98.35% with high precision and recall values. This study proves that the C5.0 algorithm is effective and accurate in the classification of dengue severity, and can be implemented in a prototype web-based decision support system to help medical personnel diagnose more quickly and accurately, thus potentially improving the quality of health services and reducing the number of complications and deaths due to dengue.

Keywords: *C5.0 Algorithm, R Programming Language, Confusion Matrix,*