ABSTRACT

APPLICATION OF THE DECISION TREE C4.5 ALGORITHM FOR CLASSIFYING TYPES OF BULLYING AND HARASSMENT IN SENIOR HIGH SCHOOL ENVIRONMENTS

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Bullying and harassment remained persistent issues in school environments, including at Public Senior High School 1 Gedong Tataan. These behaviors have serious consequences, ranging from psychological disturbances to academic underperformance. However, the identification of types of bullying and harassment had traditionally been conducted manually, which proved ineffective in supporting accurate case handling. As a solution, this study applied the Decision Tree C4.5 algorithm to classify types of bullying and harassment based on student report data. This algorithm was chosen due to its ability to handle both categorical and numerical data, as well as its capacity to produce clear and interpretable classification models. Based on the testing results, the developed system successfully identified and classified cases of bullying and harassment with a high level of accuracy. Additionally, the system provided follow-up recommendations and facilitated the management of student data. Thus, the application of this algorithm contributed positively to more structured and data-driven efforts in handling and preventing bullying and harassment cases in schools.

Keywords: Decision Tree C4.5, Classification, Bullying, Waterfall, Senior High School