PREDICTION OF DIPLOMA LEGALIZATION STATUS USING DECISION TREE ON DATA FROM THE PAPUA PROVINCIAL EDUCATION OFFICE

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ABSTRACT

The diploma legalization service of the Papua Provincial Education Office serves over 5,000 applicants per year, with 65% coming from outside Jayapura for purposes such as civil servant (CPNS), police (Polri), and military (TNI) applications, which require the original diploma. This study develops a C4.5 Decision Tree model to predict the status of 'Completed'/'Not Completed' using a dataset of 50 legalization entries from January to May 2025. Predictor variables include Year of Graduation, School Type, Document Status, and Number of Documents, with the target being Process Category. The model achieved an accuracy of 86.67%, class precision of 85.71% for Completed and 100% for Not Completed, recall of 100% for Completed and 33.33% for Not Completed. Key decision rule: diploma >15 years AND private school → Not Completed (risk 82%). Implementing the model has the potential to save 45% verification time through automatic pre-screening for out-of-town applicants.
Keywords*: Decision Tree, diploma legalization, Papua Education Office, predictive classification, document verification*

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