ABSTRACT

SUGARCANE LEAF OBJECT DETECTION USING CLASSIFICATION METHODS IN MACHINE LEARNING

by

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Creating a machine learning model by combining the Support Vector Machine (SVM) classification algorithm with HOG Features Extraction. The resulting model will be very helpful in detecting sugarcane leaf objects on a plantation land. This study used 829 image data taken from Kaggle, but reprocessed and only 227 image data used were divided into 2 classes, namely others (class 0) and sugarcane (class 1). The analysis of this research was conducted using GoogleColab with python programming language. The results of this study are accuracy of 96%, precision 0.96; The recall is 1.00 and the F1-score is 0.98. This research only discusses a small problem, the real problem topic is detecting sugarcane leaf objects for counting trees using classification methods in machine learning.

Kata kunci: *Machine Learning*; *Support Vector Machine*; *Histogram of Oriented Gradients*; *Python*; *Sugarcane*