ABSTRACT

IMPLEMENTATION OF GABOR FILTER METHOD AND SUPPORT VECTOR MACHINES IN RECOGNITION AND CLASSIFICATION OF BARK

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The tree has a main trunk grows upright, supporting the canopy of tree. Morphology (outer structure) from trunk of each plant is different. Based on a condition of trunk, there are two high level groups, that is a herba plant (soft plant) has a smooth texture and woody plant has a rough texture on skin surface of tree. Texture analysis has a part of important in image processing because the texture analysis was developed with the aim computer can understand, make a dummy, and then processed the texture for can simulated the eyes learned or human vision.

Texture analysis can be obtained with the way of feature extraction an images with any method. Which method used is gabor filter method and support vector machines as a classification method in pattern recognition. Pattern Recognition is a part of computer science, and mapped a data into certain concept can be called a class or a category.

Based on research result, can be concluded this research success applicated gabor filter method and support vector Machines into texture analysis and pattern recognition images of bark with an accuracy 74,1% using the best parameter that scale=1 and orientation=1.

Keyword: *Pattern Recognition*, *Image Processing*, *Feature Extraction*, Gabor Filter, *Support Vector Machines*.