

RHIZOMA IMAGE CLASSIFICATION USING K-NEAREST NEIGHBOR METHOD AND GLCM FEATURE EXTRACTION

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ABSTRACT

Rhizome is a modification of a stem that grows creeping under the surface of the soil and can produce new shoots and roots from its segments. Rhizomes are commonly used as flavorings/spices and herbal medicines or jamu. Rhizomes have many types such as ginger, kencur, kunci, kunyit, and galangal and have similarities in their characteristics such as texture, shape, and color. These similarities make it difficult for laypeople to identify the type of rhizome. There are problems that arise due to the similarity of characteristics in the rhizome, so a system is proposed that is able to classify rhizome images. The system in the study was built using the Python programming language with the K-Nearest Neighbor classification method and GLCM (Gray Level Co-occurrence Matrix) texture feature extraction. The results of the system test obtained an accuracy of 74% on the test data. The study is expected to be used as a reference material for similar studies in the future so that it can improve the accuracy of the classification results of rhizome types.

Keywords: Rhizome, Classification, Image, K-Nearest Neighbor, Gray Level Co-occurrence Matrix