

# **CATFISH FISH FRESHNESS IDENTIFICATION SYSTEM USING COLOR MOMENT FEATURE EXTRACTION AND K-NEAREST NEIGHBOR**

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## **ABSTRACT**

*Determining the quality of fresh and not fresh meat in catfish can use microbiological analysis and can also be done manually by human senses such as feeling the fish flesh, looking at the physical appearance of the fish and smelling the smell of the fish. However, using microbiological analysis requires relatively large amounts of human labor, physical abilities that are relatively more susceptible to fatigue and relatively large costs. Meanwhile, if you use the manual method using human senses, quite a few people will not be able to identify it using this method.*

*Therefore, the solution offered is to use a catfish identification system using color moment feature extraction and the K-Nearest Neighbor classification method which is expected to be able to identify catfish accurately and be easy to use. In research to build a system for identifying the freshness of catfish, this can be done by collecting data first, making direct observations by taking photos of tilapia fish from 0 hours to 15 hours, which will later be used as a dataset for creating a system model. In implementing color moment feature extraction, 3 moments are calculated including mean, standard deviation and skewness. To apply the K-Nearest Neighbor method, Euclidean distance is used and the best K value is found from 1 to 50.*

*Based on the research results, the catfish freshness identification system using the color moment feature extraction algorithm and K-Nearest Neighbor is able to classify fish freshness well using the Euclidean distance calculation algorithm. The test results for the best K value from 1 to 50 are found at  $K = 7$ . The system gets an accuracy value of 100% at a value of  $K = 7$ .*

*Keywords: Identification System, Catfish, Quality, Color Moment, K-Nearest Neighbor*



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