

# ***IDENTIFICATION OF FRESH AND UNFRESH FISH BASED ON EYE IMAGE USING THE SELF ORGANIZING MAPS (SOM) METHOD***

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## ***ABSTRACT***

*Fish is the most common and easy to obtain source of protein, consumed by many Indonesians. The abundance of fish causes the number of fish caught to increase. Freshness identification is a processing stage that needs to be carried out quickly and precisely in the processing of large quantities of fish. This research uses Self Organizing Maps (SOM) as the methodology that will be used. The research stages consist of preprocessing, feature extraction, image identification. This research produces a system that uses a GUI to identify fresh and non-fresh fish using the Self Organizing Maps method. The system was created using a learning rate of 0.1 and sigma 0.5 and got the best results with an accuracy of 92.86%.*

***Keywords:*** *Self Organizing Maps, Fish, neural network, color histogram, Tkinter GUI, unsupervised learning method.*