

## ABSTRACT

*Eggs are known by many people with protein and nutrients of which 90% calcium, minerals, iron contained in telur yellow and contains 6 grams of protein and 9 essential amino acids contained in the egg white. With the low price, the egg has a high-quality protein and essential amino acid composition is complete so many eggs used as ingredients for processed foods. However, the quality and freshness of eggs can be seen from various aspects of the shape and color of the eggs. Yolk color has a level of 1 to 15 grade. Usually to determine the color of the yolk using an instrument called Yolk Color Fan but the results obtained will be subjective so there is a difference in perspective caused by several factors, such as the light and the difference of the person's vision. This is going to be the topic of this thesis is the classification of the yolk. As most people know that technological development in the field of digital image processing has been very rapid pattern recognition techniques precisely in a digital image that use digital image processing to classify the domestic chicken egg yolk.*

*In this final project in the data retrieval of eggs held in collaboration with the University of Padjadjaran, Jatinangor West Java and the author discusses about how to detect the quality and kesegeran from the albumen, and detecting the quality of the yolk of yellow chicken eggs using digital image processing with Fuzzy Color Histogram (FCH), Discrete Cosine Transform (DCT) and edge detection with classification K-Nearest Neighbor (K-NN), which begins with the preprocessing consisting of operations cropping and resizing, RGB to grayscale, RGB to CMYK, filling, detection edge, and detection distance.*

*The results of research in the task of this end in get the value of accuracy detection of the quality of the egg yolks is 71,87 % with time computing 10.513171s seconds, and the value of accuracy detection of the quality of the fitness egg is 65,62 % .Hoped with the ability of the system, can help users Yolk Color Fun so that can be made the standard measurement accuracy right in the quality of the egg yolks and also the quality of the freshness egg chicken of the country.*

**Keywords:** *domestic chicken eggs, Discrete Cosine Transform, Fuzzy Color Histogram, K-Nearest Neighbor, Edge Detection, cropping, resizing, filling, RGB.*