***Abstract***

*Koi fish (Cyprinus carpio) is one of the most interesting ornamental fish, ranging from various colors to various types, so that this fish is popular with many people as an ornamental fish. Apart from being used as an ornamental fish, the existence of koi fish is also a promising business field, so that not a few people are willing to spend hundreds of millions of rupiah to get the criteria they are interested in. With the growing knowledge of cultivation and the development of new koi fish color patterns emerging, this is good news as well as a new problem for people who are unfamiliar or are new to knowing the types of koi fish. Koi fish have attractive body colors and ideal body shapes so they have good business prospects. So a Matlab application was built to determine the type of koi fish based on color patterns. K-Nearest Neighbor can classify objects based on learning data that are closest to the object so that the results can be more accurate. The Red, Green, Blue (RGB) color space is a standard color space based on the acquisition of color frequencies by electronic sensors. The output from this sensor is an analog signal. RGB is an additive color space, which means that all colors start with black and are formed by adding green, red, and blue. The combination of KNN and RGB results in a fairly high accuracy for determining the type of koi fish using the overall data, namely 75 images and divided into two data including training data with a total of 50 data on koi fish species and test data with a total of 25 data on koi fish types. The evaluation results obtained from the RGB and KNN methods, the training data obtained an average value of K = 1 of 100%, and the average value of test data K = 1 of 56%.*

***Keywords*** *: Koi Fish, K-Nearest Neighbor, RGB*