

ABSTRACT

Today, society really love and hobby to care of koi, even many of them like to following competition. Many ways to choice the best koi to follow the competition, some other thing from body shape, color, and pattern then healthy of that koi.

Hence, writer makes how to help the judger to choice what is the best koi to be winner at a competition. This, writer was make category to koi classification based on body shape, pattern, and color then some parameters that needed to determine the best koi, with image processing as input using algorithm which enable classification process more effective, accurate, and objective.

Image processing algorithm that used divides into some steps. First preprocessing is reducing useless part of object and similarity background color with detection of background color pixel cluster using K-Means. Feature extraction process is used to get expected result detection, to body shape detection was taken from comparison length and width with cutting vertical and horizontal and labeling to reducing biner image to all components that in circuit and have pixel less that determine, to get another biner image, then to color detection using YIQ (NTSC) and pattern detection was taken from comparison pattern color with body wide. Last, classification technique. Writer using Matlab r2009a to simulation the image processing. The result of this minor thesis is accuration 76,67%.

Keyword: *Koi Competition, Matlab R2009a, Image Processing, K-Means*