Abstract

Many koi fish enthusiasts keep or buy them just for their attractive colors, without knowing what type of koi fish they are. The manual classification of koi fish species is still frequently incorrect. The application of machine learning techniques such as Support Vector Machine (SVM) is an effective way to overcome this problem. However, the performance of SVM is greatly influenced by the choice of parameter values. Therefore, the SVM technique optimized by the Nelder Mead Simplex method was used in this research. The Nelder Mead method succeeded in improving SVM performance on koi fish classification. The Nelder Mead Simplex method is capable of obtaining the highest accuracy up to 0.99. These results indicate that this method is a viable solution to overcome the limitations of SVM algorithm.

Keywords: koi fish, support vector machine, nelder mead simplex