**Abstract**

**The diversity of types of ornamental betta fish makes it difficult for ordinary people to recognize the types of ornamental betta fish. Therefore, a classification system for ornamental betta fish is needed which aims to help identify types of ornamental betta fish. In this study, we employ the ResNet-50 architecture for betta fish classification. The architecture maximizes the resulting accuracy due to a large number of layers. It can reduce the missing gradient problem thereby increasing the resulting performance. The models were trained by using a dataset with several variations of color space to be able to find out the right color space to apply. Color space is quite influential because color is one of the reliable features in this study. The experiment demonstrates that the RGB color space and Adam optimization algorithm are suitable compositions for the classification of ornamental betta fish species with this dataset. Models using datasets with RGB color space achieve the highest performance with the values of accuracy, PPV, NPV, TPR, TNR, and f1-score are 80%, 82%, 96%, 79%, 96%, and 80%, respectively.**