

FishDeTec: a fish identification application using image recognition approach

ABSTRACT

The underwater imagery processing is always in high demand, especially the fish species identification. This activity is as important not only for the biologist, scientist, and fisherman, but it is also important for the education purpose. It has been reported that there are more than 200 species of freshwater fish in Malaysia. Many attempts have been made to develop the fish recognition and classification via image processing approach, however, most of the existing work are developed for the saltwater fish species identification and used for a specific group of users. This research work focuses on the development of a prototype system named FishDeTec to detect the freshwater fish species found in Malaysia through the image processing approach. In this study, the proposed predictive model of the FishDeTec is developed using the VGG16, is a deep Convolutional Neural Network (CNN) model for a large-scale image classification processing. The experimental study indicates that our proposed model is a promising result.

Keyword: Component; Freshwater fish; Fish species recognition; FishDeTec; Convolutional Neural Network (CNN); VGG16