

**FINFACTS – A SYSTEM TO DETECT REEF ASSOCIATED
FISH SPECIES IN COASTAL AREA OF SRI LANKA**

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Abstract

Sri Lanka is a country with a large marine ecosystem. Many come to relish the true wonders of the aquatic life that this beautiful island has to offer. But there is no proper system in Sri Lanka to help identify the unique marine species that live around the coastline of Sri Lanka. Many systems were focused on fisheries and freshwater fish species. Therefore, the aim of this research is to implement an application which can help to identify reef associated fish species in the coastline of Sri Lanka. To achieve this aim, author has implemented a system by training six Convolution Neural Network models and used ensemble learning approach to display the final prediction to the user to smooth out any individual model's errors. All six models, MobileNetV2, VGG16, VGG19, ResNet50V2, InceptionResNetV2 and Xception got more than 80% accuracy and was able to provide predictions in less than 1.5s. Therefore, majority voting technique of ensemble learning approach is used by using all six models to get final predictions and got an overall accuracy of 89.16%.

Keywords: Reef Fish, Fish Classification, Image Processing, Sri Lanka, Ensemble learning