

Review of: "Development of a Mobile Application for Flag Identification based on Artificial Neural Networks"

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Potential competing interests: No potential competing interests to declare.

The article describes some results of a research whose objective is to develop a mobile application that would help users to classify flags of different countries, based on Deep Learning. The implemented application runs on Smartphones.

The dataset used in the experiments had 48 different classes and 40 images for each flag, according to the text, which is a small amount for the proper training of a Deep Learning algorithm. The authors also describe that the average number of images per class increased to 120, through artificial image manipulation techniques. The experiments were conducted using a common desktop computer with a Ryzen 5 3600 CPU, 16 GB of RAM, RX570 GPU and running on a Windows 10 operating system. The artificial neural network (ANN) was developed using the TensorFlow framework.

My suggestions:

- 1- Present the results in the form of graphs, plotting the variations in the number of neurons per layer and also in the number of training epochs, and their variations in the final results obtained in the Classification
- 2- Use metrics to evaluate the performance of the "Flag-a-Flag" Classifier that was implemented. Examples of Classifier performance measures are: Confusion Matrix, ROC Curve (Receiving Operating Characteristic), Accuracy, Precision and Recall. Present the results of some of these metrics using visual charts and diagrams, rather than just text and tables.