Automating the counting of ships in California sea

Jorge Sánchez

Introduction

This report will cover first an exploratory data analysis, a brief discussion of a proposal automation ship detection pipeline, the limitations of the dataset and the proposed pipeline, and finally a recommendation to the Agency.

Running Code

When you click the **Render** button a document will be generated that includes both content and the output of embedded code. You can embed code like this:

You can add options to executable code like this

```
================================================================================
SHIP DETECTION DATASET - EXPLORATORY DATA ANALYSIS
================================================================================

 Successfully loaded 4000 inages from a total of 4000
```

Pipeline

Multiple object detection

Limitations of the pipeline and datasets

The dataset provided add some challenges such as: the imbalance number of images for classes 'ship' and 'no-ship', the inconvinience of having lack of data specially in the class 'ship' having only 1000 pictures. In addition to this there is a need to have more satellite images in different weather conditions environments sunny/claudy days, waves, scale, resolution, oclusion caused by clouds and ligth

Recommendations

```
4
```

The `echo: false` option disables the printing of code (only output is displayed).