Marine Bird Classification
Final project

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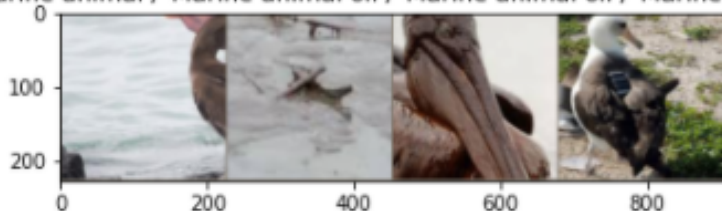
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Biostatistics, Fall 2020

We have selected 100 images relating to marine birds with oil and without oil

['Marine animal', 'Marine animal oil', 'Marine animal oil', 'Marine animal']

Sample frame title

We made a simple classifier to make classification using pytorch.Model is based on crossentropy loss and stochastic gradient decent algorithm used to find out the points which have minimum loss. Popular 80/20 data split method was used to evaluate the trained model.

Important theorem

Resnet18 pre trained weights were used to evaluate our trained model.

Evaluation

This is a text in first column. First we evaluate our trained model using resnet18 weghts

Then we apply new image to check the ability of our model to predict a new image which we never seen before.

Accuarcy measurements

- True positive (TP) The number of correctly identified samples.
- True negative (TN) The number of correctly identified negative samples
- False positive (FP) The number of wrongly identified samples, i.e., a commonly called a "false alarm"
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- False negative (FN) The number of wrongly identified negative samples.

Accuarcy measurements

- Precision (PREC) This metric is also frequently called the positive predictive value, and shows the ratio of samples that are correctly identified as positive.
- Recall (REC) This metric is also frequently called sensitivity, probability of detection and true positive rate, and it is the ratio of samples that are correctly identified as positive among all existing positive samples.
- F1 score (F1) A measure of a test's accuracy by calculating the harmonic mean of the precision and recall.
- Accuracy (ACC) The percentage of correctly identified true and false samples.

- Classification-Accuracy $= 0.851$
- F1 score Without oil bird $= 0.8590909090909091$
- F1 scorer With oil bird $= 0.8444444444444444$
- Recall for Without oil bird $= 0.9$
- Recall for With oil bird $= 0.8$
- Precision for Without oil bird $= 0.8181818181818182$
- Precision for With oil bird $= 0.8888888888888888$