

Cryptarithmic puzzle solver:

Welcome to my cryptarithmic puzzle solver!

Enter the three words for the puzzle:

Choose the equation sign:

+



Solve

Machine learning:

Benchmarking machine learning algorithms

Performing exploratory data analysis

The dataset I chose, talks about different levels of obesity based on eating habits, physical condition if he/she smokes...

This dataset includes data from people from Mexico, Peru and Colombia.

Shape



First and last 5 lines of code



Count the null values



Amount of different obesity levels



Change categorical values



Different machine learning algorithms

Select the algorithm you would like to see the result of:

- ☒ Random Forest
☐ AdaBoost
☐ KNeighbors

Number of trees



Accuracy: 59.78%

Confusion Matrix:

Accuracy: 59.78%

Confusion Matrix:

Actual	Normal_Weight	64	9	4	10	0	1	0
	Overweight_Level_I	21	41	6	3	5	6	9
	Overweight_Level_II	0	2	58	26	7	0	4
	Obesity_Type_I	6	1	14	67	1	0	0
	Insufficient_Weight	0	0	0	0	97	0	0
	Obesity_Type_II	4	11	16	22	5	24	4
	Obesity_Type_III	7	5	8	32	1	5	28
		Normal_Weight	Overweight_Level_I	Overweight_Level_II	Obesity_Type_I	Insufficient_Weight	Obesity_Type_II	Obesity_Type_III
		Predicted						

Conclusion

To conclude we can see that in most cases AdaBoost is the worst algorithm and Random Forest is the best.

We can also see that none of these algorithms give a good result, maybe it is hard to classify this data.

Deep learning:

Deploy 

Performing exploratory data analysis

I wanted to work with the category: marine life. I chose to scrape images of dolphins, clownfish, starfish, jellyfish and sea turtles.

I didn't want to use categories that were too similar, so that's why I chose those.

It's also easy to find many more categories so, I can always add more that would fit the marine life category.

I will start by showing the EDA that I did and a few sample images.

of training images

amphiprioninae class, Number of Images: 120

asteroidea class, Number of Images: 120

dolphin class, Number of Images: 120

jelly+fish class, Number of Images: 120

sea+turtle class, Number of Images: 120

of testing images

amphiprioninae class, Number of Images: 30

asteroidea class, Number of Images: 30

dolphin class, Number of Images: 30

jelly+fish class, Number of Images: 30

sea+turtle class, Number of Images: 30

Example image of the training set



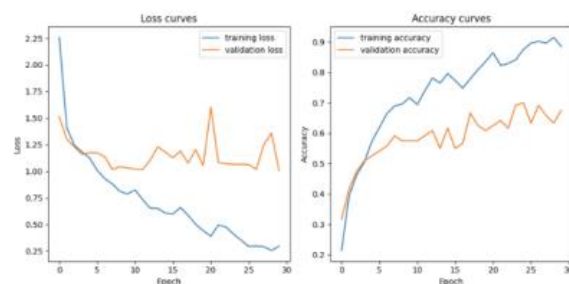
Example image of the test set



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Showing the trained model

Visualize the training and test loss and accuracy:



Here, you can change the epoch to see the result.



Accuracy: 66.67%

True Loss: 0.30000000000000004

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Test loss: 0.9883943796157837

Confusion matrix

