CNN.

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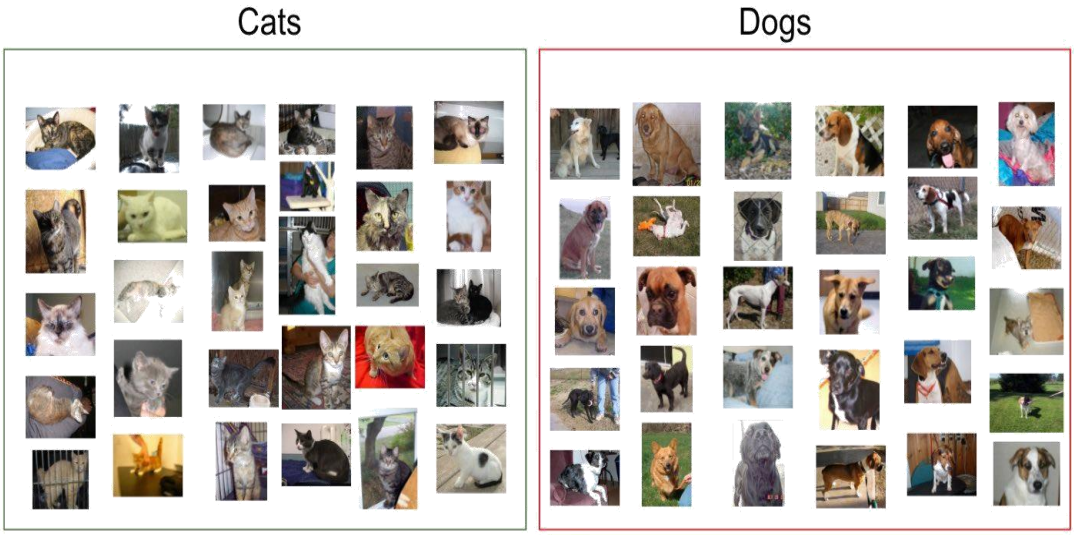
Dataset Explanation.

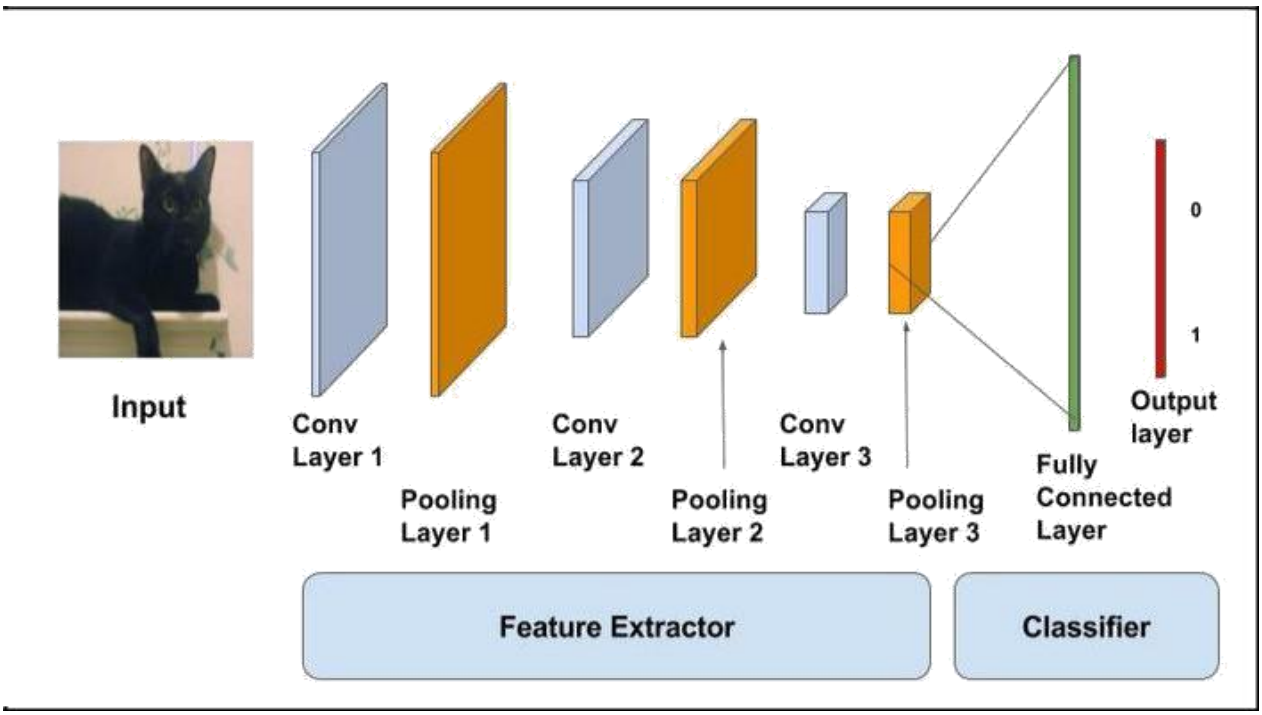
The Dataset is of 10,000 different images of **Dogs** and **Cats** and is taken from Kaggle https://www.kaggle.com/c/dogs-vs-cats.



Business Question:

We want our model to classify the input image into **Dog** or **Cat**.

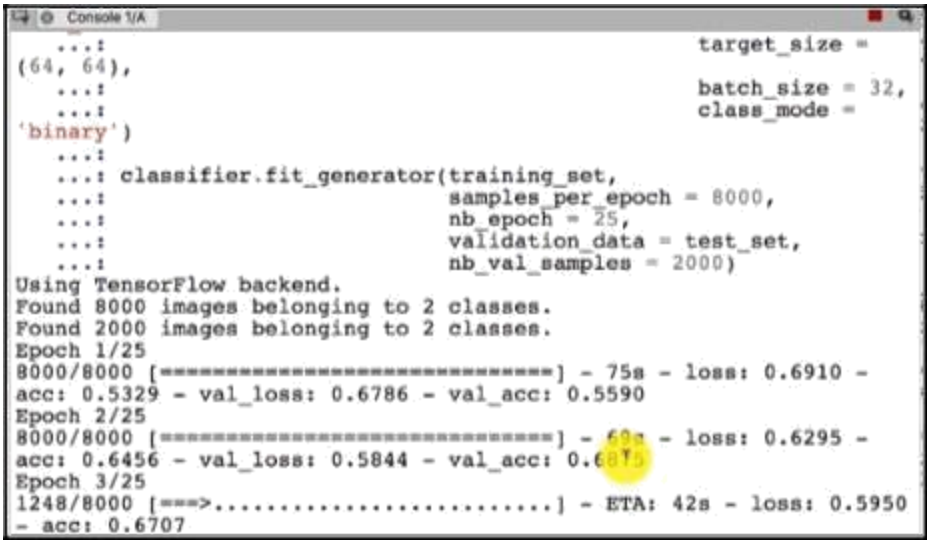
CNN Architecture.

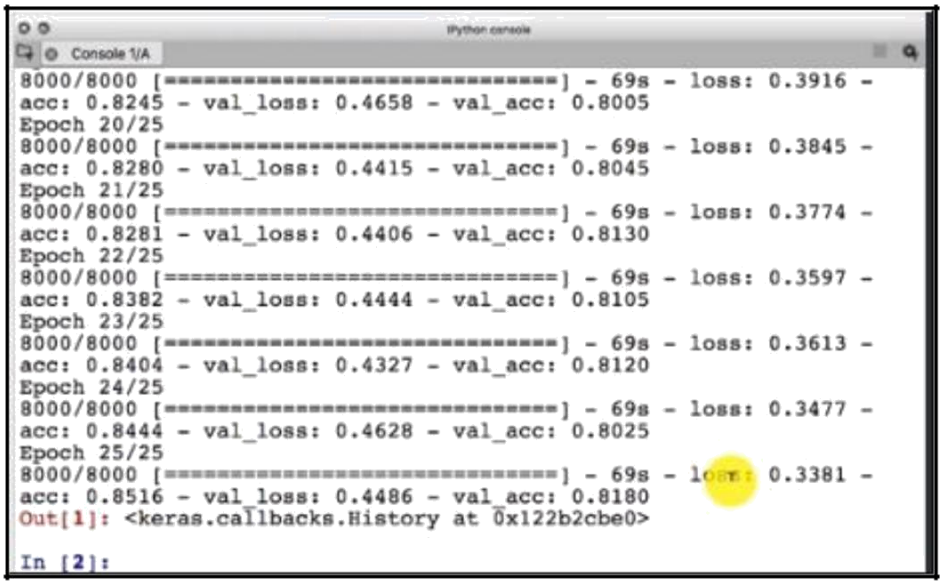


Building CNN Steps:

1. Importing the Keras libraries and packages.
2. Initialising the CNN.
3. Adding Convolution Layer.
4. Pooling.
5. Adding a second convolutional layer (To improve accuracy of the model).
6. Flattening.
7. Full connection.
8. Compiling the CNN.
9. Fitting the CNN to the images.

Results –





Total Time for execution = 20 mins.

Using training dataset to test our CNN model we get accuracy of **53.29%** after 1 epoch cycle, and our accuracy increases to **85.16%** after 25 epoch cycle.

On testing our CNN model on our testing dataset we get accuracy of **55.90%** after 1 epoch cycle, and our accuracy increases to **81.80%** after 25 epoch cycle.

Conclusion-

When we want to classify a given image into **Dog or Cat** we can do that using our **CNN model** at an accuracy of **81.80 %.**