Image Classification

Problem Statement

The Dogs vs. Cats dataset is a standard computer vision problem for classifying images as of dogs and cats. It was only effectively solved in the last few years using convolutional neural networks. This dataset can be used as baseline to solve any binary classification problem in computer vision. It is quite easy for humans to classify images as dogs or cats but for a machine to do the same needs a lot of training. This project uses raw labelled images of dogs and cats and trains the model using a convolutional neural network to classify images dogs and cats.

Evaluation Parameters

Evaluation will be based on:

- Accuracy of Model
- Passing a New image to the model and validate whether it is a cat or a dog.

Data Preparation

Creating Training sets and testing sets with labelled images of cats and dogs. The training set will consist of two subfolder names cats and dogs. Cats will have training images of cats and dogs will have training images of dogs. Similarly, the testing set will consist of two subfolder names cats and dogs. Cats will have test images of cats and dogs will have test images of dogs.

Expected Outcome

- Student will learn to load and prepare photos of dogs and cats (or any other binary classification) for model building.
- Develop a Convolutional Neural Network from scratch to build a binary classification computer vision problem
- A robust understanding of building any problem that involves binary classification and computer vision.
- Take new unseen images and pass it to the network and identify which of the two classes the new image belongs to.