Problem:
People write in as many different ways as there are stars in a galaxy. This leads to development of different patterns in writing. Consider a scenario where we have to scan peoples hand written survey response (0-9) and store it in database, For this purpose manual labor will be very expensive and tedious process as well. I want to propose a solution for this problem. I will train a model using neural networks for digit recognition using Google’s Machine Learning tool Tensorflow and Python Programming language. I will be using the ‘MNIST DATABASE’ which consist of training and test set for hand written digits (0-9). The data set consist of 60,000 training data and 10,000 test data. The limitation of this model will be if digits other than (0-9) are given then the model will not be able to recognize and classify it and also the model will be able to predict numbers only in black and white images.

Methodology Discussion:

Approach: My approach to tackling the proposed problem is by developing a model which uses neural networks and tries to derive an accurate solution.

Result: The end result of the model will be that given any hand written digit between 0-9 the model can successfully recognize and classify the digit.

Statement of Work: For solving the problem the I will be working on MNIST DATABASE which consist of black and white images of digits of size (28x28) pixels i.e. 784 pixels. The features will be the pixel values for each pixel thresholded. Either the pixel is "blank" (there is a 0), or there is something there i.e. black pixel (1). Those are the features of the model. I will use this data, and try to predict the number (0,1,2,3,4,5,6,7,8, or 9).

Resources: Google’s machine learning tool Tensorflow (GPU version based on Nvidia CUDA). Python Programming language.

References

[2] https://www.youtube.com/watch?v=Gj0iyo265bc
