Assignment 2 Part 1

Summary of NVIDIA Fundamentals of Deep Learning for Computer Vision!

GPU Task 1: Image Classification

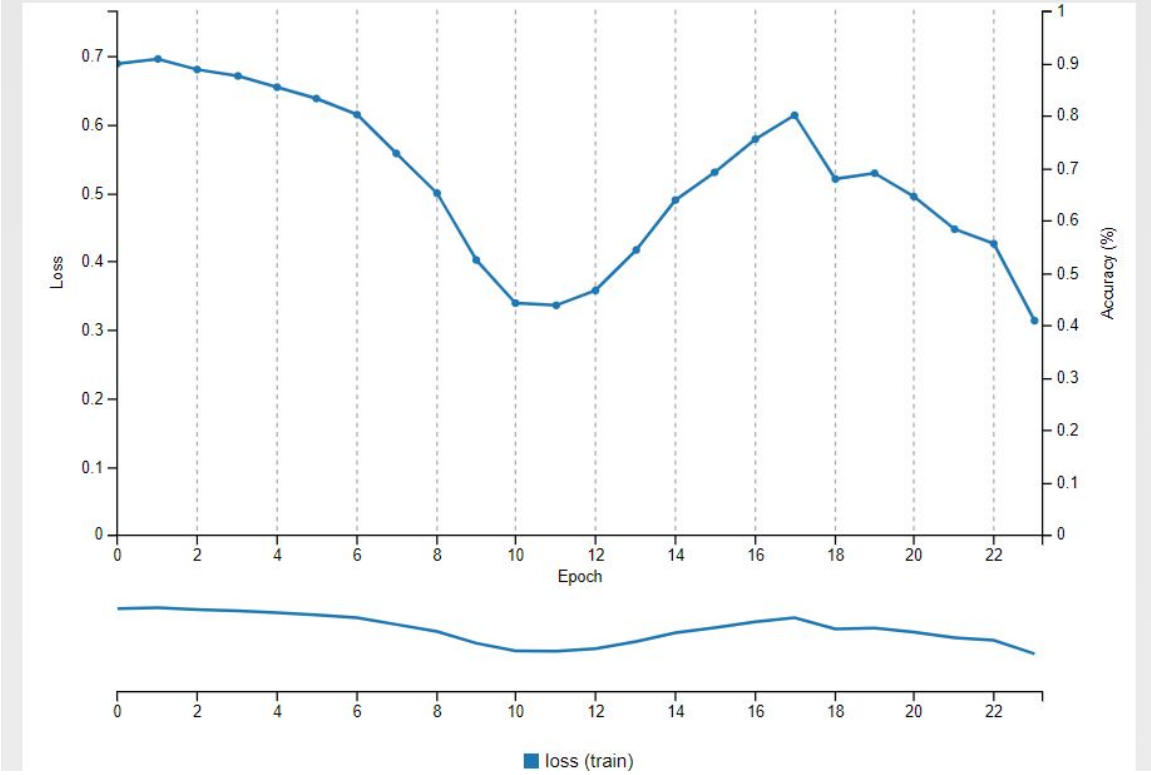
Training a neural network to classify images. Here there are two classes Louie and Not Louie.

Concept: Train with a single epoch vs multiple epoch.

After 2 epochs: loss = 0.682632

After 30 epochs: The Model recognised that its a pic of Louie 100%:

The train loss decreased till some point and then there is a fluctuation in the loss. The loss after 100 epochs as follows:



GPU Task 2: Image classification on unseen Data.

In this section, we combine The GPU, Big data, Deep Neural Networks to train a neural network that is effective in the real world. We'll measure our success by the model's performance on *new data*.

In Task 1, the model has trained and performed on same data. In this GPU task, we will see how to measure the *performance of network on new data* while introducing *one* strategy that reduces overfitting, big data.

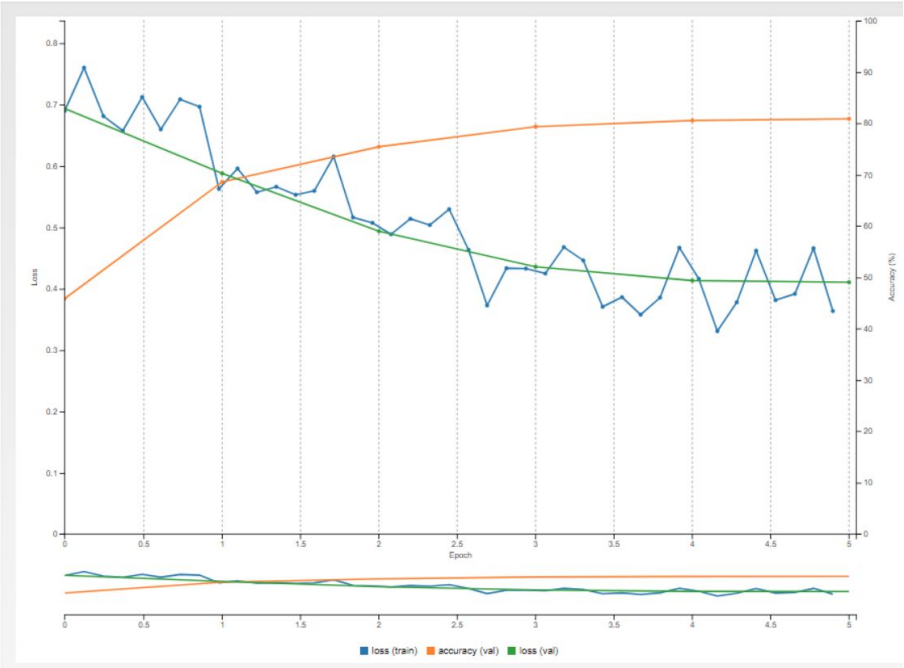
After 5 epochs:

Blue - Loss train

Orange - Accuracy Val

Green - Loss Val

Accuracy and loss plots



From this it is clear that the validation loss decreased with number of epochs and the accuracy went up gradually. (More experiment results in .csv file

GPU Task 3: Deploying trained networks

Deploy trained networks into applications to solve problems in the real world. We'll take on a sample simulated project that would have been impossible without the network we just trained. The model calculated the probabilities of each class for test images. Instead, of regular output the output is shown as:

Output:

```
[[ 0.42844081  0.57155913]]
Output:
Welcome dog! https://www.flickr.com/photos/aidras/5379402670
None
```