- Explored the dataset,it has images of varying size around 800 to 1500 and also the dataset has class imbalance.
- It becomes very difficult to train models with such huge size images due to limitations of computational power. Initially resized the image to 224 and then trained model,later increased the size to 500 by maintaining aspect ratio using padding and observed significant increase in results.
- To handle class imbalance initially applied weighted cross entropy later applied SMOT and observed significant improvement in results.
- Initially I took simple CNN architecture with 5 layers and then performed tuning of various hyper parameters like activation function and optimizer and learning rate and number of convolution layers etc.
- Later I used **InceptionV3** and trained the model with pretrained weights as initialization.I completely trained the InceptionV3 and the custom fully connected network I added upon it.
- Performed tuning of hyper parameters using 80:20 train validation split and finally fixed my model architecture.
- At last I trained my architecture with full training data along with augmented data using smot and flipping, and performed predictions on the test dataset.