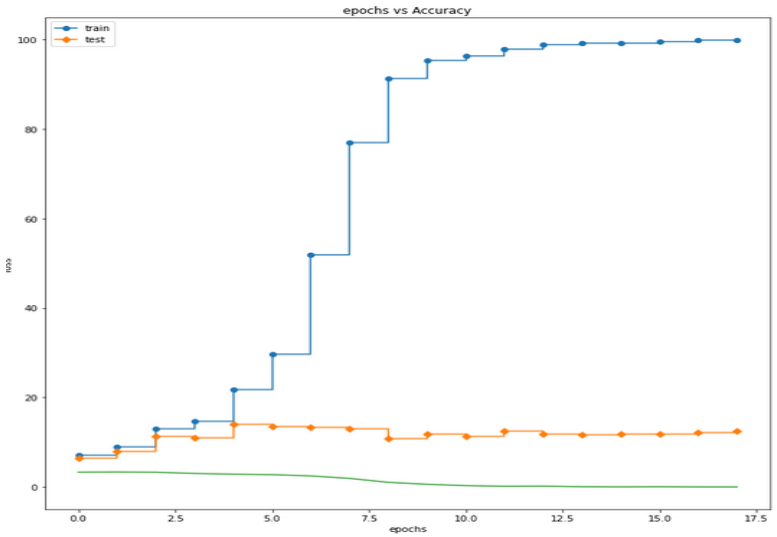
Non-Comp Part

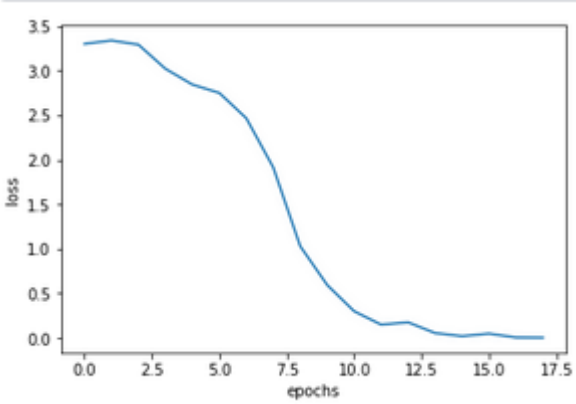
CNN:

Train accuracy = 98.82%
Test accuracy = 12.43%
Epochs = 18



Epochs vs Accuracy and Epochs vs loss graph

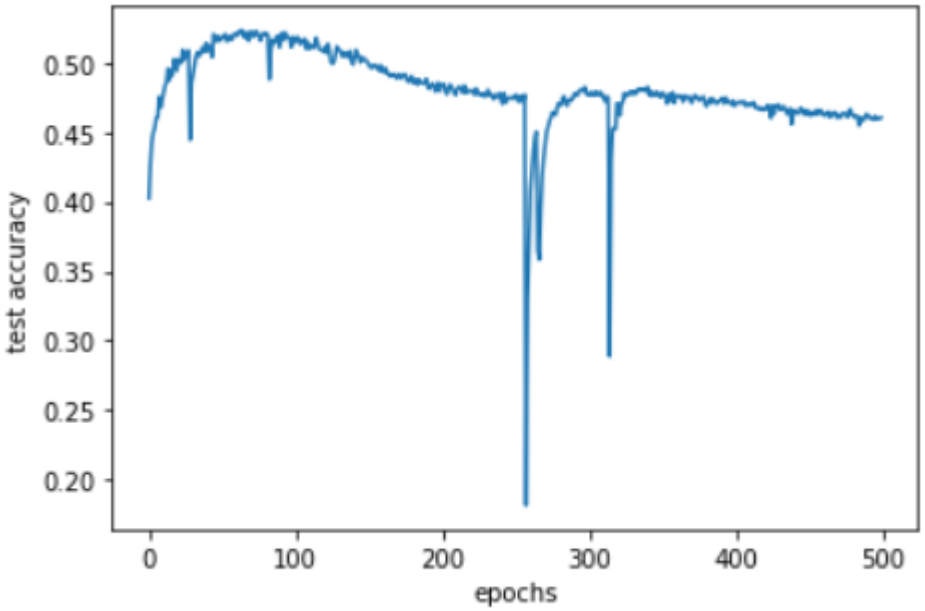
Green line - loss function
Blue line - train accuracy
Orange line - test accuracy



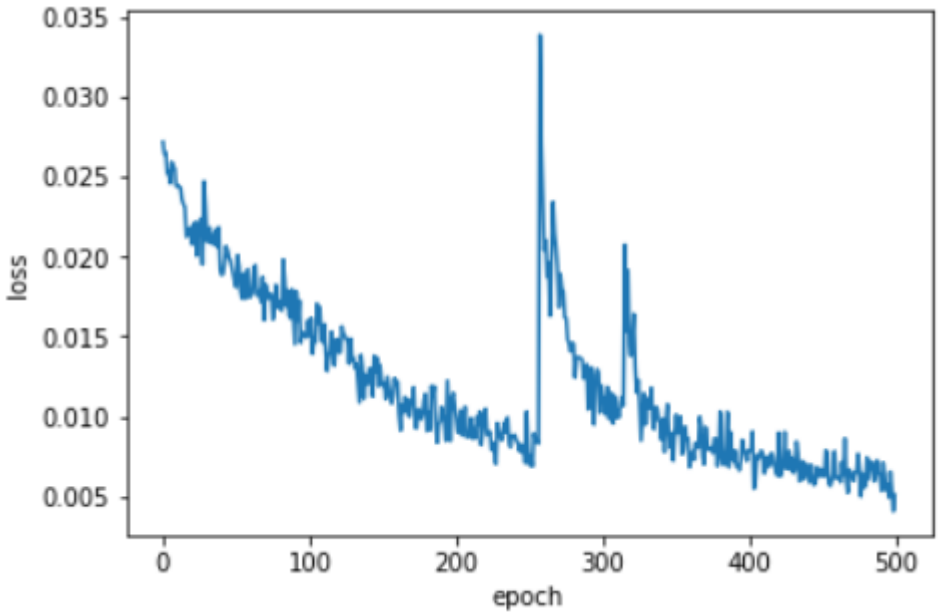
Epochs vs loss function

RNN:
Input size of each batch = [300, 50] where 50 is the max length which may contain pad units.

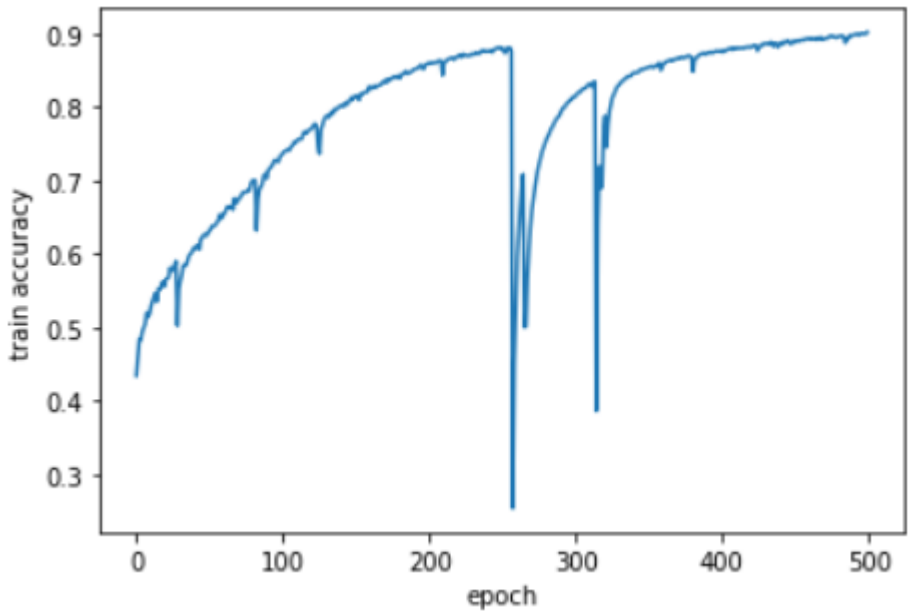
Train accuracy = 87.42%
Test accuracy = 47.01%



Test (validation) accuracy vs epochs



Loss vs epochs



Train accuracy vs epochs

Comp Part

Idea: We use a pre-trained BERT large model (340M parameters) from huggingface and fine-tune it on titles to get an accuracy of 62% on validation data (non-comp test data). We use a pre-trained EfficientNet_b6 model (44M parameters) from PyTorch and fine-tune it on cover images to get an accuracy of 29% on the validation data.

Next, we combine (hstack) the probabilities obtained from both the individual models and train them on an SVM classifier to get the final predictions.