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Deliverable 2: Final Report

1. Final Training Results

Compared to my previous results in deliverable 2, my current model has improved accuracy and loss. Indeed, my current binary cross entropy loss is 0.22, and binary accuracy is 0.936.

I have modified my model and the project to achieve such results. Instead of using an SST5 dataset, I moved toward an SST2 dataset. The SST2 dataset contains two labels, positive and negative. When training on the SST5 dataset, I observed that the results had a binary accuracy of around 50% with a loss of over 100%. Therefore, due to these inaccuracies, I decided to use an SST2 dataset instead of SST5 dataset. I also modified how the model was trained. Indeed, instead of training the whole model once, I decided to train the layers. I decided to first train the weights on the layers I added on ten epochs. Following training the weights of the new layers, I decided to train the whole model on my dataset on three epochs. Furthermore, I used TensorFlow's GPU, which accelerated the training process.

2. Final Training Results

For my final product, I plan on making a website where one can enter a YouTube link through a textbox. Upon clicking enter, I will display if the Youtube video provided is positive or negative. I will achieve the front-end using React as I have experience using it on some school projects, personal projects, and an internship. As for the web application's backend, I plan on using Flask and following the tutorial in the instructions. I do not have any experience using Flask. However, I have experience in building APIs and using third-party APIs. To get the comments from Youtube, given a link to the video, I would first extract the video id from the link and call an API from Youtube that retrieves the comments related to that video to perform the sentimental analysis.