1. What you learned in the ICP

First half of the report were concepts used in ICP3 and used again. The first thing I had to learn was understand what is meant by deep learning. Then how to build a sufficient model based on the data at hand. Afterwards, comparing the results with the train and test to see if there is any bias, and accuracy issues.

The second portion of the ICP was to create a deep learning model, adding the right combination of layers, and comparing the predictions.

1. ICP description what was the task you were performing

* **First portion was basically ICP3**
* The required libraries were imported, and after doing so the data was read.
* After reading the data few commands were used to see the basic information about what was in the data. EX: data.head(10) to see the columns, labels, and ID
* Since the id column was no use it was removed using (data.drop() function ).
* After successful completion of column removal, the first 20 tweets were converted into string. By doing so removes any ambiguity in the data. Therefore, that entire data is one data type, and making it easier to work with.
* Then any special charters or elements that were present were removed from the tweets. The reason for doing so enables us to shrink the data size and remove unwanted data which as no meaning. A frequency method was applied to see the most common and then plotted.
* Stop words were also removed which do not add much meaning.
* After removal of stop words stemming and Lemmatization were implemented.
* POS tagging and TDIDF method were also applied to the data
* Performed a classification test to see the weighted avg of the data.
* Checked for any missing data via the isnull() function.
* Lastly, data visualization was applied using word cloud and bar plot and linear graph.
* **Second portion consisted of creating a deep learning model**
* Checked the labels to see if the sentiment was positive or negative.
* Created train and test functions
* Modeled using keras sequential()
* Adding layers
* Compiling the results
* Comparing the test with the train

1. Challenges that you faced

Most of my time was spent on learning how to use Keras and setting up my model. The modeling was the most difficult part because I did not know where to start. It was lot of trial and error with little success at the end.

1. Screen shots that shows the successful execution of each required step of your code

A screenshot of a social media post

Description automatically generatedA screenshot of a social media post

Description automatically generatedA screenshot of a social media post

Description automatically generatedA screenshot of a social media post

Description automatically generatedA screenshot of a computer

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1. Output file link if applicable

<https://github.com/UMKC-APL-BigDataAnalytics/icp4-irfancheemaa>

1. Video link (YouTube or any other publicly available video platform)

Should not need access. If you do please let me know. I changed my settings to where it is accessible once the link is clicked.

<https://umkc.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=7835825c-b569-4347-9eba-ac3f005d597d>

1. Any inside about the data or the ICP in general

I really had difficult with this topic and still am left with confusion.