



**National University**  
of computer and emerging sciences

# Artificial Intelligence **Project Report**

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Zahid Iqbal

9th Dec, 2020

## Introduction and Problem Statement:

The task is to choose from two natural language statements with similar wordings which one makes sense and which one does not make sense

E.g

Task: Which statement of the two is against common sense?

**Statement1: He put a turkey into the fridge.**

Statement2: He put an elephant into the fridge.

In this case statement one is the correct one

## How to run the code:

- 1 - Extract the **submitted** zip file.
- 2 - It contains 2 files, first - **ipynb** and second - zipped dataset (**Alldata.zip**).
- 3 - Upload the **ipynb** file on google **colab**.
- 4 - Change the runtime settings to **GPU**.
- 5 - Click on the **files** icon on the left side bar.
- 6 - Click on the **Upload** icon there.
- 7 - Choose the **Alldata.zip** file from the submission folder
- 8 - Click on **RunAll** from the **Runtime** menu



## Implementation Details:

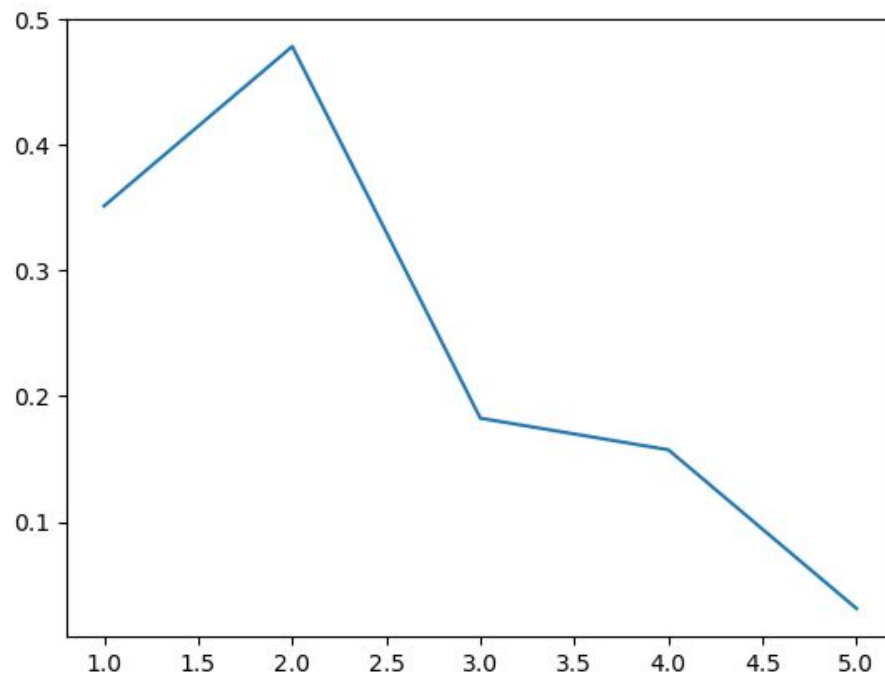
For this task I have changed the problem nature to a simple classification problem first where we have one sentence and one label corresponding to that. Label is 0 if a sentence makes sense and 1 if it doesn't. For training I have combined train, dev, and trial data to increase the training dataset and for testing I have used test dataset. I have used **simpletransformers** library to train the model. I have used a **roberta-large** model and fine tuned it, with max\_seq\_len = 25, learning rate = 4e-5, batch\_size = 128, and no\_epochs = 5.

After training the model I have tested it on both train and test set. For submission I have changed the prediction format according to the submission instructions. Like where we have 2 sentences and one label corresponding to that which represents which sentence is not making sense (sent0 or sent1).

## Results:

I have trained my model for 5 epochs. I have achieved 89% accuracy on test dataset with loss = 0.0309

Loss graph



## Conclusion

At first I thought that this project was too difficult and unfair. But once I started working on it, it seemed interesting and less difficult, although it took a lot of time but I think this was a good learning experience for all the students.

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