

Homework #2

(CSE 582; modified 3/22/2023)

Task description: Try to use Convolutional Neural Networks (CNN) and Long Short-Term Memory (LSTM) for sentiment classification.

Duration: 3/22/2023 ~ 4/9/2023

A guideline for using CNN for sentiment classification:

<https://towardsdatascience.com/sentiment-classification-using-cnn-in-pytorch-fba3c6840430>

What you should do:

- 1, study the above guideline, try to get the data, and implement CNN for sentiment classification.
- 2, Once you succeed in CNN, implement another version by replacing CNN with LSTM.
- 3, Try to check:
 - The detailed implementation of convolution and LSTM layers
 - How many parameters does a CNN or LSTM layer have?
 - Compare their training time for one epoch; feel which one is more time-consuming
 - Try to change the activation functions (e.g., from tanh to relu) to see how performance changes
- 4, upload the **code** with a **pdf** file that describes what you did and what you observed to your github, and submit by the deadline 11:59pm on 4/9/2023 (EST) to Canvas. Pls refer to TA, Shravya Chillamcherla (sjc6752@psu.edu), for more details on how to submit.

Grading: Dr. Yin will give a score based on how much you did, how much you learned, and how well your pdf is written.