CSCE 5300 Introduction to Big data and Data Science

Bonus-ICE

Lesson Title: Deep Learning

Lesson Description: Deep learning models (RNN, CNN)

In Class Exercise:

You can use google colab (https://colab.research.google.com) or Jupiter notebook (on your own laptop) and explain the models or algorithms.

Source code is given on Canvas.

1. Run CNN model on the dataset. Change the epoch and optimizer of the model to improve the performance. Explain how model work and reason for improvement of performance.

2. Run RNN model on the dataset. Change the epoch of the model and loss function to improve the performance. Finish coding parts of evaluation methods. Explain how model works and reason for improvement of performance.

ICE Submission Guidelines

1. ICE Submission is individual.

2. ICE code must be properly commented.

3. The documentation should include the screenshots of your code/queries and results.

4. Provide the explanation of the exercise for each question as per your understanding.

5. The similarity score for your document should be less than 15%.

6. Submit the source code (if any) properly commented and documentation (.pdf/.doc) with explanation and screenshot of source code/queries having input logic and output results.

7. Submission after the deadline is considered as late submission.

References:

Install Anaconda: https://docs.anaconda.com/anaconda/install/index.html

Install TensorFlow and keras: https://towardsdatascience.com/installing-keras-tensorflow-using-anaconda-for-machine-learning-44ab28ff39cb

others:

https://www.cs.toronto.edu/~kriz/cifar.html

http://ai.stanford.edu/~amaas/data/sentiment/

https://en.wikipedia.org/wiki/Long_short-term_memory

https://en.wikipedia.org/wiki/Convolutional_neural_network