**DeepLearning\_Lesson4: LSTM**

Please don't forget to submit your feedback after the class. This helps a lot in increasing effectiveness of the course. Use the following link to submit your feedback:<https://docs.google.com/forms/d/e/1FAIpQLSdTM-YGnO_nRQWExbADN-BbM410nk6-CpI7yYf0iLTILm3Pvw/viewform>

**Lesson Overview:**

In this lesson, we are going to discuss types of ANNs and Recurrent Neural Network.

**Use Case Description:**

1. Sentiment Analysis on the imdb dataset

**Programming elements:**

1. Basics of LSTM

2. Types of RNN

3. Use case: Sentiment Analysis on the imdb data set

**Source Code:**

https://umkc.box.com/s/2htjfwlu2p933u21j0dzx2z8qby5n0k2

**In class programming:**

1. Plot graph, loss function and accuracy in the Tensorboard
2. Change the RNN cell to LSTM and then check loss and accuracy how it changed
3. Change the number of embedding dimension and report how loss and accuracy changes
4. Add more layer with dropout and check how your model accuracy changes
5. \* bonus question: give a sample sentence to the model and check the sentiment of the sentence:

**For example: sentence = the movie was terrible**

**Output: negative**

**ICP Submission Guidelines (for In Class students):**

1. ICP Submission is in pairs of two students.

2. Once completed, must be presented to TA or Instructor before the completion of the class

3. Submission after class is considered as a late submission. (Check the late submission policy in the syllabus)

4. ICP Code with brief explanation should be pushed to GitHub. Submit GitHub link through the Feedback Form: https://docs.google.com/forms/d/e/1FAIpQLSdTM-YGnO\_nRQWExbADN-BbM410nk6-CpI7yYf0iLTILm3Pvw/viewform

**Online Submission Guidelines (for Online students):**

1. Submit your source code and documentation to GitHub and represent the work through wiki page properly (submit your screenshots as well. The screenshot should have both the code and the output)

2. Comment your code appropriately

3. Video Submission (2 – 3 min video showing the demo of the ICP, with brief voice over on the code explanation)

4. Submission after class is considered as a late submission. (Check the late submission policy in the syllabus)

5. Use the following Google link to submit your ICP # (GitHub wiki page link for ICP #): https://docs.google.com/forms/d/e/1FAIpQLSdTM-YGnO\_nRQWExbADN-BbM410nk6-CpI7yYf0iLTILm3Pvw/viewform

**Evaluation Criteria:**

1. Completeness of Features

2. Code Quality (<https://en.wikipedia.org/wiki/Best_coding_practices>)

3. Time

4. Feedback Submission

**Note:** *Cheating, plagiarism, disruptive behavior and other forms of unacceptable conduct are subject to strong sanctions in accordance with university policy. See detailed description of university policy at the following URL:* [*https://catalog.umkc.edu/special-notices/academic-honesty/*](https://catalog.umkc.edu/special-notices/academic-honesty/)