**CS5590 APS - Deep Learning Programming**

**LAB4**

**Deadline: 7/27/2018**

The following assignment focus on to make one familiar with TensorFlow Deep Learning and Deep Learning algorithms library

**LAB Assignment:**

1. Implement the text classification with CNN model, with a new dataset which is not used in the class

2. Implement the text classification with RNN/LSTM model, with a new dataset which is not used in the class

3. Compare the results of CNN and RNN/LSTM models, for the text classification (same dataset for 2 models to compare) and describe, which model is best for the text classification based on your results

4. Implement the image classification with CNN model, with a new dataset which is not used in the class (E.g. CIFAR 10 dataset)

**LAB Submission Guidelines (for both In Class and Online students):**

1. LAB submission is in pairs of two students.

2. 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)

3. Comment your code appropriately

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

5. Submit **only** report at Turnitin in UMKC blackboard

6. Remember that similarity score should be less than **15%**

7. Use this link to submit your LAB#: <https://goo.gl/forms/eB40avvS9978uZW52>

8. Report should include below details

I. Introduction

II. Objectives

III. Approaches/Methods

IV. Workflow

V. Datasets (if applicable)

VI. Parameters

VII. Evaluation & Discussion

VIII. Conclusion

**LAB Evaluation Criteria:**

1. Report similarly score (should be less than **15%**)

2. Report Quality (check the below example reports for reference)

3. Time (should submit before due time)

4. Wiki page

**Example Reports:**

<https://github.com/stratospark/food-101-keras>

<https://github.com/matterport/Mask_RCNN>

<http://blog.stratospark.com/deep-learning-applied-food-classification-deep-learning-keras.html>

**Reference for Datasets:** No need to stick with these datasets. You can choose your own dataset

<https://snap.stanford.edu/data/web-Amazon.html>

<https://www.kaggle.com/cfpb/us-consumer-finance-complaints>

<http://ana.cachopo.org/datasets-for-single-label-text-categorization>

<https://archive.ics.uci.edu/ml/datasets/reuters-21578+text+categorization+collection>

<https://www.analyticsvidhya.com/blog/2018/03/comprehensive-collection-deep-learning-datasets/>

**University Policy on Student Conduct:**

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://www.umsystem.edu/ums/rules/collected_rules/programs/ch200/200.010_standard_of_conduct>