COMP/EECE 7/8740 Neural Networks
Assignment 4
Fall 2021
Due: October 26, 2021
Total points: 100

This assignment aims to implement Recurrent Neural Networks (RNN) models for machine translation where the system will convert sentences from English to French.

Dataset: the datasets are uploaded to the ecourseware for both languages:
   a) Small_vocab_en
   b) Small_vocal_fr

Reference source codes and database : Assignment_4_ref_codes
https://github.com/zahangircse/COMP_EECE_7or8740_NNs

Other resources:
The necessary codes for the following steps:
   1. Row data reading
   2. Encoding
   3. Tokenization
   4. Padding

   They are uploaded to the ecourseware, which you can use to prepare the inputs for the models. In addition, an example of machine translation with a single-layer GRU has been provided as reference.

Tasks:
   1. Implement stacked (2-layer) RNN, stacked (2-layer) LSTM, and stacked (2-layer) GRU models for machine translation from English to French and compare the performance among them.
   2. Please provide at least ten translations from English to French from each model in the report.

Report outlines: the report will be included:

   1. The title page contains the course title, number, your name, ID, and assignment number.
   2. Introduction
   3. Methodology
   4. Deep Learning Architecture
   5. Experiment and Results
            i. Training and testing plots (loss or accuracy)
            ii. Discussion and comparison (if necessary)
   6. Conclusion
   7. References (if available)