HPE DSI 312 – Introduction to Deep Learning – Spring 2024
Project #2
Due Saturday, April 27th, 11:59 pm (Central)

Develop a tutorial which demonstrates how a neural network performs an NLP task of your choice. Create a notebook (Google Colab markdown file) that implements that tutorial. Your tutorial should pair code cells with text cells that describe/comment on the actions performed by the code. This should be similar to your Project #1 and the tutorials we discussed in class (e.g., 🤗 Hub / TF Hub).

The tutorial should comprise code cells (that run without errors) paired with text cells that summarize:

- the training dataset; choose a dataset that will be easy for you to process, describe, and discuss. (**1 point**)
- the model description (input, output, architecture); you get to choose these options, but explain them and discuss why you chose them. It is perfectly acceptable (in fact, it is encouraged) to use transfer learning to keep things simple (**1 point**)
- the training hyperparameters and procedure (e.g., loss function and optimizer); you get to choose the options, but explain them and discuss why you chose them (**1 point**)
- the model performance evaluation results; you get to choose the dataset and evaluation methods (e.g., BLEU), but explain them and discuss why they are appropriate. Again, try to keep things simple (**1 point**)
- the intended uses & potential limitations, to the extent that you are able to explain them and offer suggestions for improvement (**1 point**)

There is no "perfect project." The objective of this project is to provide you with hands-on practice and an opportunity to improve on Project #1. For example, if you choose to design a sentiment classifier and it doesn't achieve state-of-the-art accuracy, it will not mean that the project is not successful and negatively affect your grade. Be honest, describe the issues well, and suggest potential improvements. Good luck!