CS 410: Final Project Progress Report: Sarcasm Detection in Twitter Posts

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Team: Tardy Slackers

**Progress Thus Far:**

We have a decent “first draft” python code that is working with the provided training set.

For the input of the model, we are combining the response and context tweet. We then use a huggingface tokenizer to get the tokens, masks, and special token objects.

We started working with the RoBERTa model that was developed by Google. Since we were working with the free version of Google Colab, we froze all the parameters to use as embeddings and then ran it with another LSTM layer, which means we are only changing LSTM weights at this point, to fit the model into memory. The results of this locally got a .8 F1 but on the official test set, we only got around .65 F1 which is about 0.08 below the baseline score.

**Remaining Tasks**

1. Upgrade to a paid plan of Google Colab GPU so we get more processing capability
2. Run our program with the full BERT/ROBERTA model, and possibly other models.
3. Experiment with different values for epochs, multiple GPUs, various learning rates, stacking models together, and using external data to see what delivers better/best performance to reach the baseline threshold.

**Current Challenges**

1. The familiarity and comfort with Google Colab, BERT/ROBERTA model, and NLP programming tasks such as this project vary significantly across team members. Those will less familiarity will be focused on getting more fully up to speed in the coming weeks and adjusting our model to achieve SOTA.