CS 519: Applied Machine Learning **(Due: June 1st, 2020)**

Submission Homework 1

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0. Sentiment Classification Task and Dataset

1. $$RMSLE = \sqrt{\frac{1}{m}\sum_{i=1}^{m}(\log_e(h(x)^{(i)}+1) - \log_e(y^{(i)}+1))^2} \tag{0.1}$$
2.
3.
4.

1: Naive Perceptron Baseline

1.
2.
3.
4.

2: Average Perceptron and Vocabulary Pruning

1.
2.
3.
4.

3: Pruning the Vocabulary

1. Averaged Perceptron with one-count word pruning:

```
(base) rusty@Rashmis-MacBook-Pro hw4-data % python3 train.py train.txt dev.txt
epoch 1, update 39.0%, dev 31.6%
epoch 2, update 26.4%, dev 27.5%
epoch 3, update 22.8%, dev 26.8%
epoch 4, update 18.8%, dev 26.6%
epoch 5, update 17.2%, dev 25.9%
epoch 6, update 14.8%, dev 26.5%
epoch 7, update 13.2%, dev 27.0%
epoch 8, update 12.7%, dev 26.7%
epoch 9, update 11.4%, dev 26.6%
epoch 10, update 10.6%, dev 26.2%
best dev err 25.9%, |w|=9363, time: 0.9 secs
```

2.

3.

4.

4: Other learning algorithms with sklearn

1.
2.
3.
4.

5: Deployment

1.
2.
3.
4.

Debriefing

1.
2.
3.
4.