Summary of our program for now:

The project originated from a previous project about using TF-IDF and other basic ML techniques to distinguish charity groups' inclinations. However, with the bag-of-words method, there are many limitations with that study, and the result is not very accurate. Hence, we implemented neural networks as a solution. For NLP models, we implemented convolutional neural networks and recurrent neural networks. The data we trained the model is the Stanford congressional data and the Nominate data for political people.

With the well-trained data, we can distinguish the charity groups' political inclination more accurately and determine their donation situation accordingly. We also discussed the pros and cons of different kinds of models and tried each of them respectively. And the LSTM+CNN model outputted the best results, and the training time is acceptable.

1. The data sets included Stanford congressional data, DW NOMITE data, our own Mturk data, and also the mission statement data form IRS 990 form
2. The model included CNN and RNN (LSTM), with a relatively small epoch (still increasing)
3. The model did increase the accuracy of classification
4. More work need to be done as well