

Deep Learning ECEN 5060

Final Project Proposal

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I will be working individually on the final project. Here is my proposal:

- For the final project, I would like to build a language model to perform sentiment analysis. My thesis work is related to NLP, so this topic is very interesting to me.
- I will be using the IMDB Movie Review dataset. There are 50,000 samples, so this should be large enough to efficiently train the model.
- I will be using the transformer architecture for the language model.
- The model will be built using Pytorch and the built-in transformer library as it is the most efficient option.
- I will use Kaggle resources for handling the dataset and various online resources for building the language model using Pytorch and the built-in transformers library.

Here's a few examples:

- <https://www.kaggle.com/code/lakshmi25npathi/sentiment-analysis-of-imdb-movie-reviews>
- <https://pytorch.org/docs/stable/generated/torch.nn.Transformer.html>
- I can judge the model using various metrics, including F1 score and accuracy. Since the data has a simple 2 output classification (Positive, Negative), it will be simple to calculate the accuracy of the model.
- Rough Schedule:
  - Week 1: Begin building the model
  - Week 2: Begin training/evaluating the model on the dataset
  - Week 3: Adjust/Fine-Tune the model for best performance
  - Week 4: Prepare presentation materials and finishing touches on project