

# DL Project Proposal: Shakespeare to English

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## Abstract

*Add abstract to be fancy*

## 1 Introduction

[1] [4] [3] [2] [6] [5] Abstract

Inspiration

Data web scrap label via aligner

Preprocessing Tokenize!!!! NUM PROPER NOUNS  
PUNCTUATION USE SPACY FOR POS TAGS

Models Baseline Seq2Seq Baseline No attention, no  
Bidirectional encoder RNN- $\rightarrow$  RNN GRU- $\rightarrow$ GRU bidi-  
rectional GRU - $\rightarrow$  Bidirectional GRU With Attentions  
Teacher Forcing

Use Aligner to measure quality of data, and learn-  
ability. Not learnable - $\rightarrow$  still train, but when report,  
do backwards, suggest data is difficult Learnable - $\rightarrow$  do  
aligner do well, then models

Final Tricks: Num - $\rightarrow$  Num PN - $\rightarrow$  PN Punct - $\rightarrow$  Punct

Expectation: Hopefully provides good translations  
Hopefully can do a pseudo style transfer on English  
Funny translations? 50 Shades of Grey

## 2 Data Procurement

1

## 3 Preprocessing

2

## 4 Architectures

### 4.1 Baseline RNN Sequence to Sequence

### 4.2 GRU Sequence to Sequence

### 4.3 Bidirectional Model

### 4.4 Attention Mechanisms

### 4.5 Teacher Forcing

## 5 Roles and Responsibilities

## 6 Expectations

## References

- [1] D. Bahdanau, K. Cho, and Y. Bengio. Neural machine translation by jointly learning to align and translate. *arXiv preprint arXiv:1409.0473*, 2014.
- [2] K. Cho, B. Van Merriënboer, C. Gulcehre, D. Bahdanau, F. Bougares, H. Schwenk, and Y. Bengio. Learning phrase representations using rnn encoder-decoder for statistical machine translation. *arXiv preprint arXiv:1406.1078*, 2014.
- [3] L. Liu, M. Utiyama, A. Finch, and E. Sumita. Neural machine translation with supervised attention. *arXiv preprint arXiv:1609.04186*, 2016.
- [4] M.-T. Luong, H. Pham, and C. D. Manning. Effective approaches to attention-based neural machine translation. *arXiv preprint arXiv:1508.04025*, 2015.
- [5] K. Papineni, S. Roukos, T. Ward, and W.-J. Zhu. Bleu: a method for automatic evaluation of machine translation. In *Proceedings of the 40th annual*

<sup>1</sup><https://github.com/cocoxu/Shakespeare>

<sup>2</sup><https://spacy.io>

*meeting on association for computational linguistics*, pages 311–318. Association for Computational Linguistics, 2002.

- [6] I. Sutskever, O. Vinyals, and Q. V. Le. Sequence to sequence learning with neural networks. In *Advances in neural information processing systems*, pages 3104–3112, 2014.