

Paraphrasing with Neural Machine Translation



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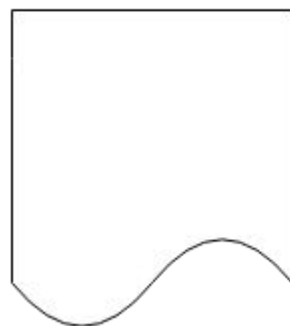
Paraphrase

- ⦿ Paraphrases are alternate ways to convey the same information.
- ⦿ Original: Her life spanned years of incredible change for women.
- ⦿ Paraphrase: Mary lived through an era of liberating reform for women.

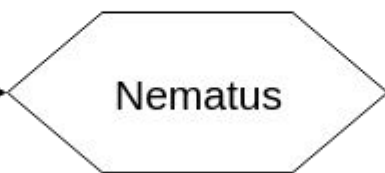
Overview

- ⦿ We propose a method to automatically extract paraphrases from monolingual corpus, by using an NMT system trained to translate from our source language to a foreign language.
- ⦿ We use pivoting method to extract paraphrases of the source language using translated parallel corpus.
- ⦿ We find identical words/phrases in the target side of NMT and map back to the source side to extract paraphrases.

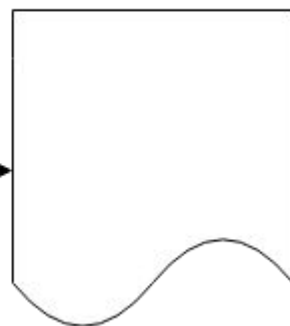
Language 1



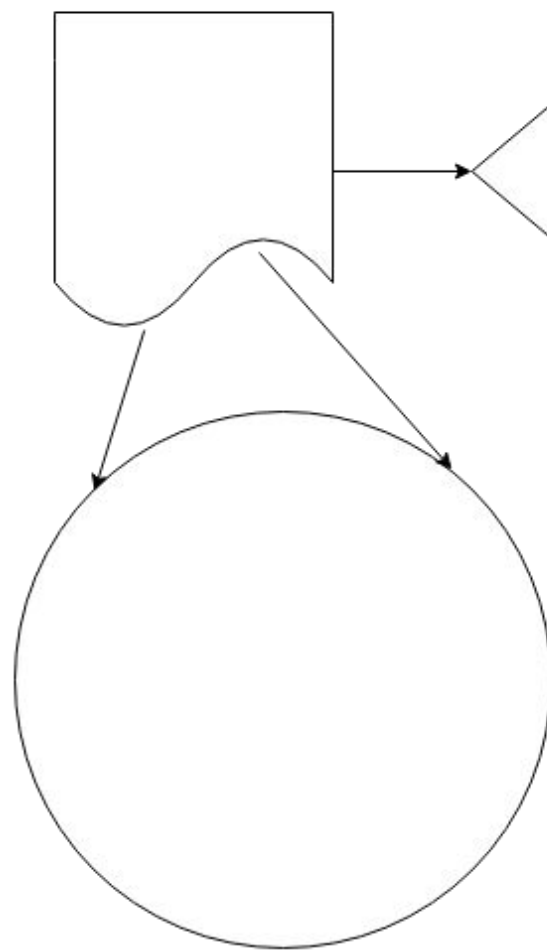
Nematus



Language 2

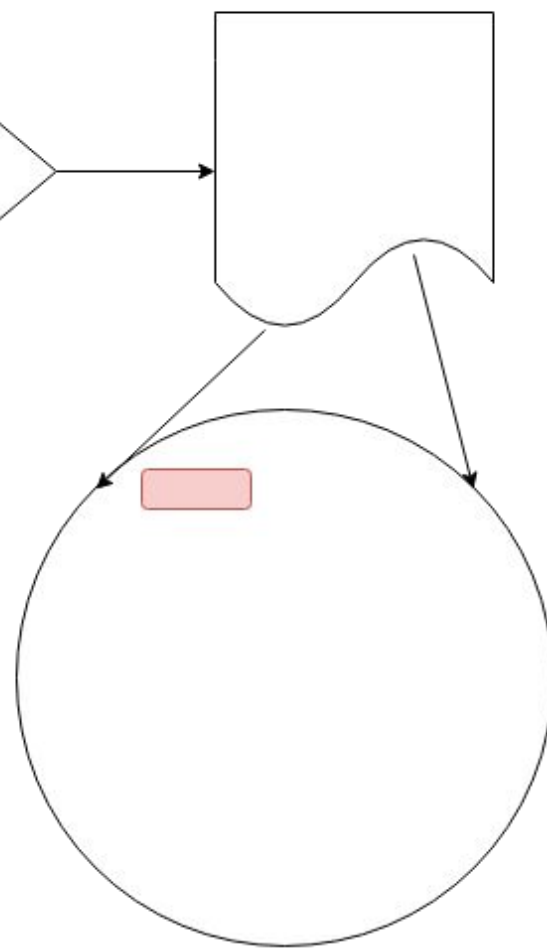


Language 1

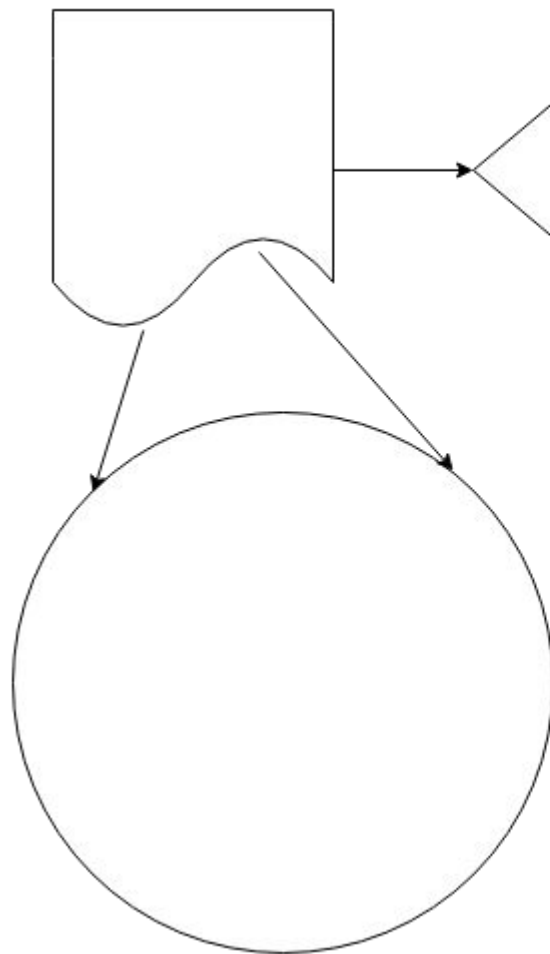


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Language 2

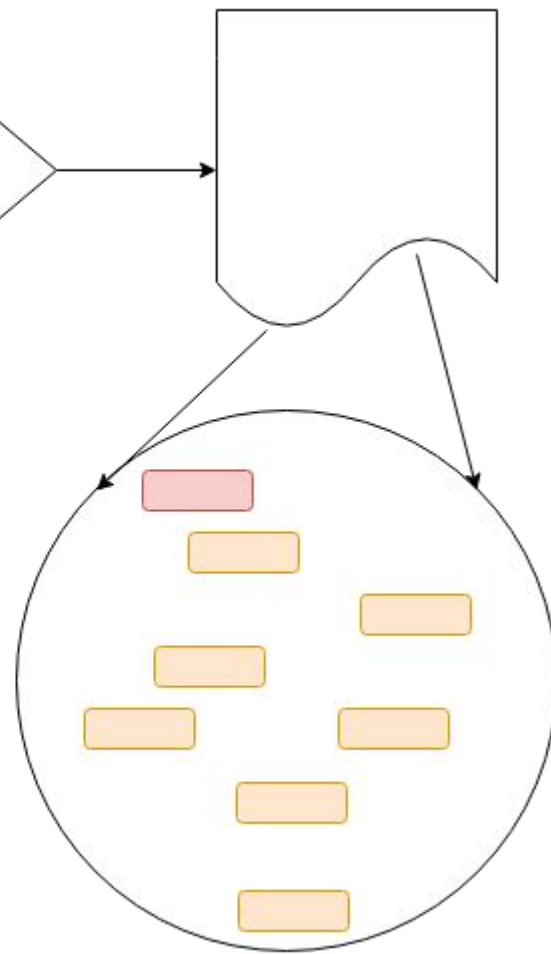


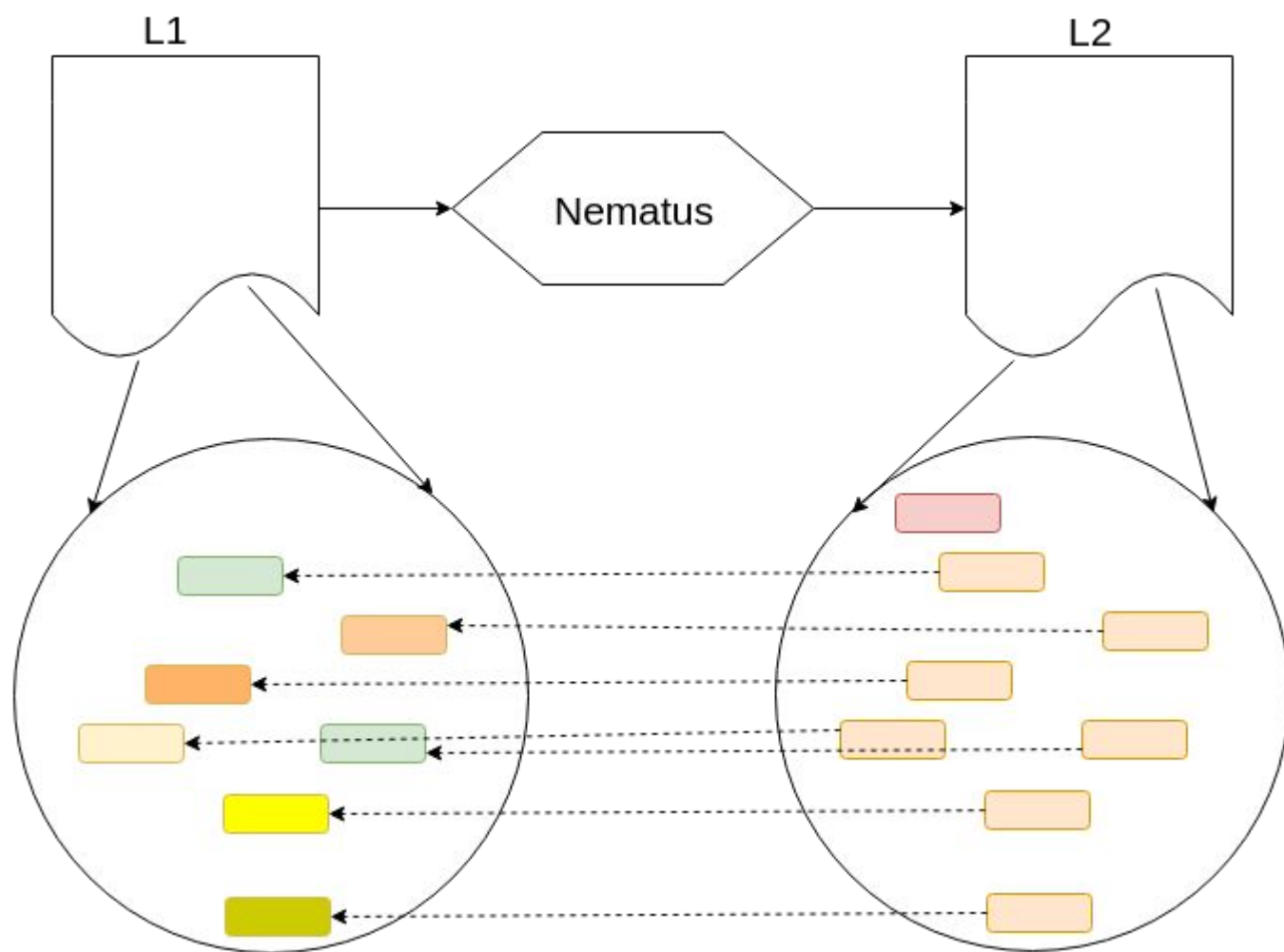
Language 1

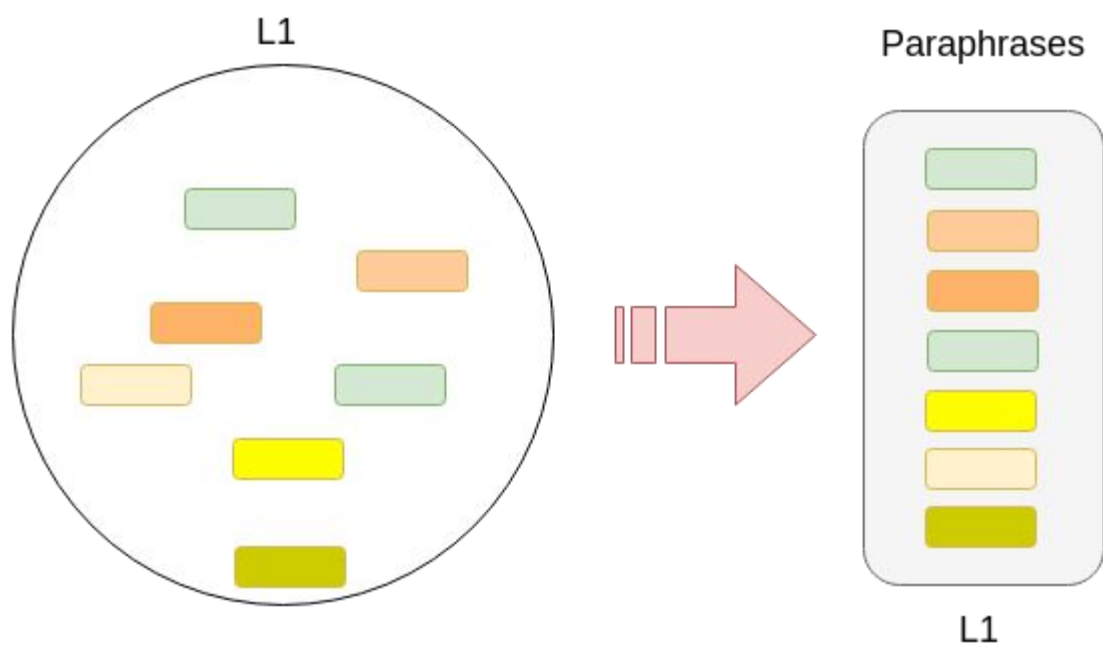


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Language 2







Challenges

- ⊙ How to use soft alignments to identify source words from target words?
- ⊙ How to compare the identified source side words using alignment/hidden vectors/(?) to extract paraphrase?
- ⊙ Whether the reranking can be improved by using an RNN LM.



Thanks