

# Bidirectional Transformer Reranker for Grammatical Error Correction

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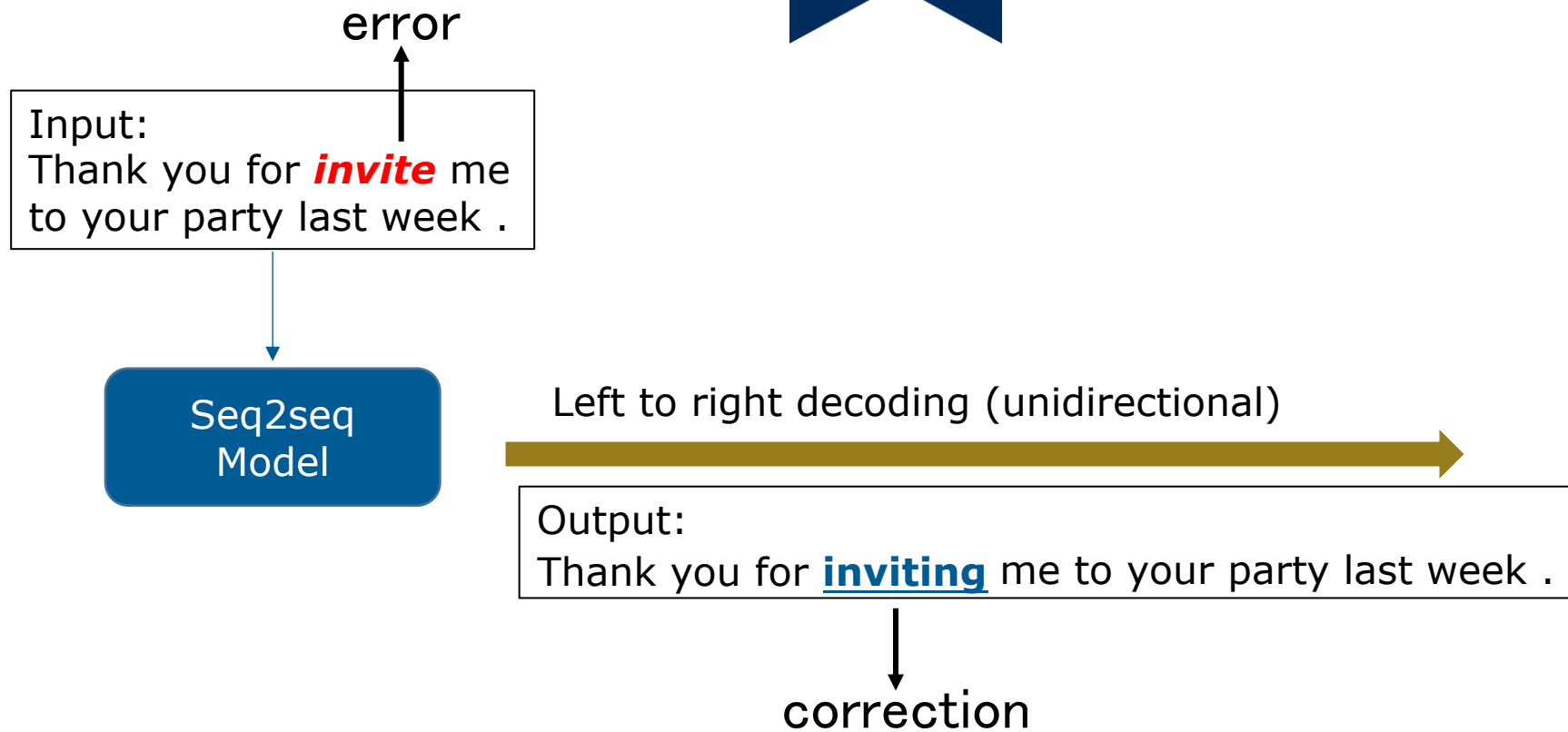
Paper



# Motivation



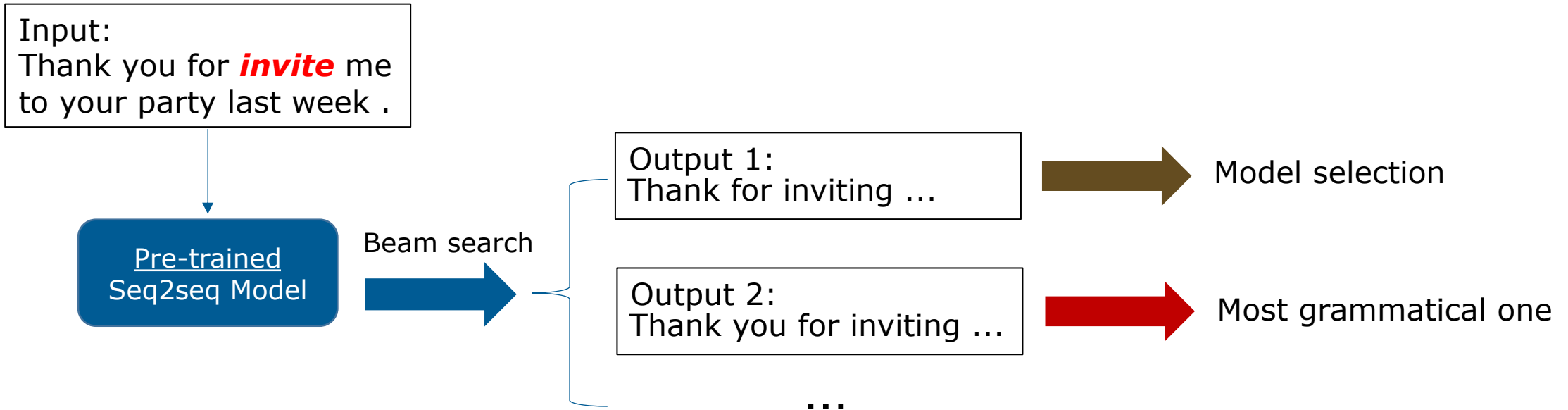
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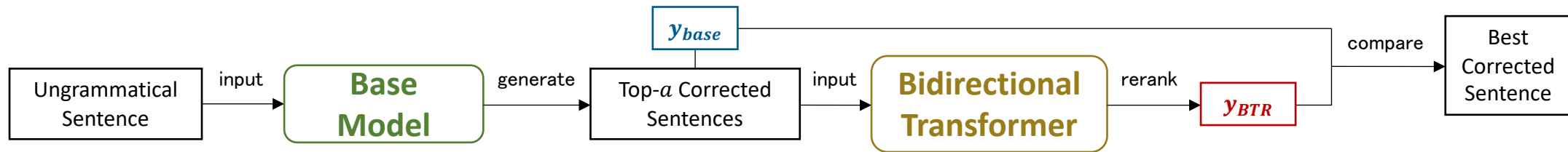


# Motivation



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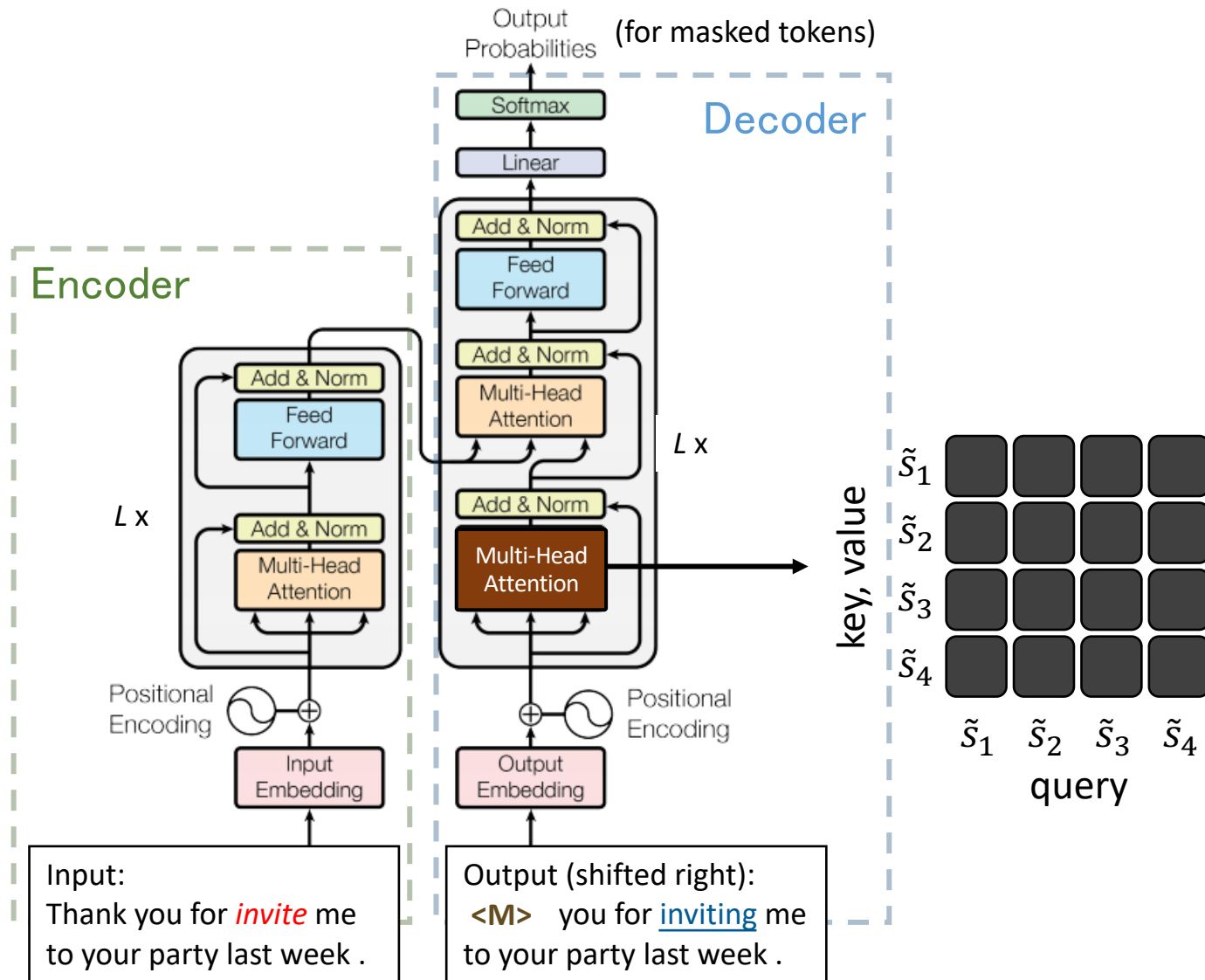




## Bidirectional Transformer Reranker (BTR)

- **Base model**: a seq2seq model for correcting grammatical errors.
- $y_{base}$ : the top-ranked hypothesis from the base model.
- **Bidirectional Transformer**: re-estimate **sentence** probability.
- $y_{BTR}$ : the top-ranked hypothesis from the BTR.

# Proposal Bidirectional Transformer



# Experimental Results

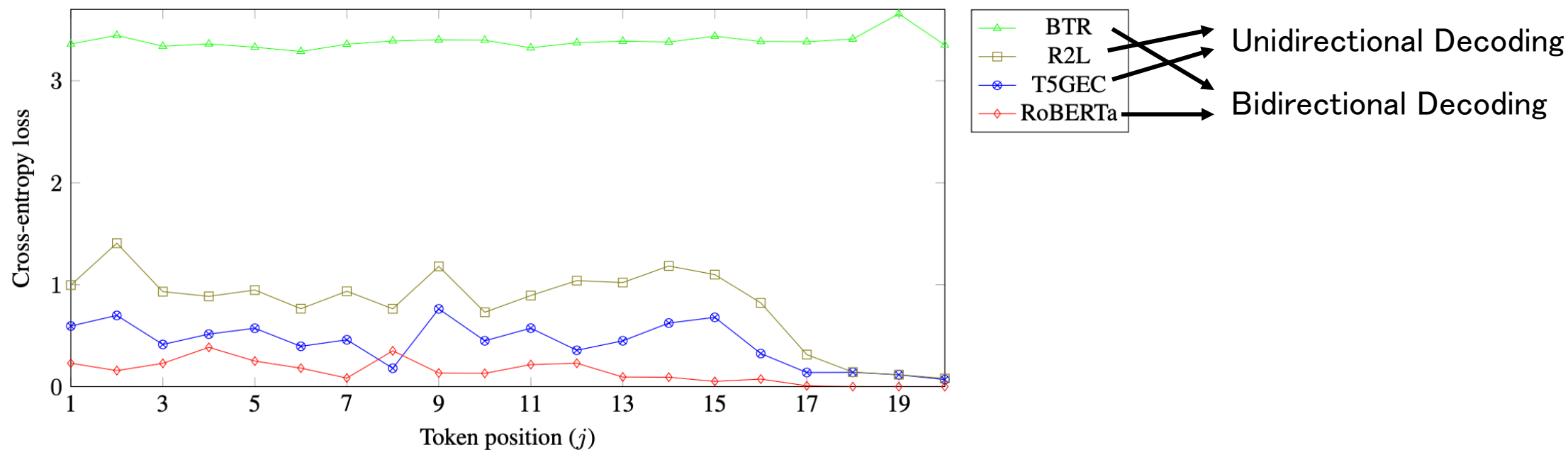


Figure 1: Cross-entropy loss of  $y_j$  versus  $j$ . The loss was averaged over CoNLL-14's 149 tokenized utterances with length in interval  $[18, 20]$  (including  $\langle \text{eos} \rangle$ ).

# Experimental Results

$a_{train} > 0$ : Usage of negative sampling strategy

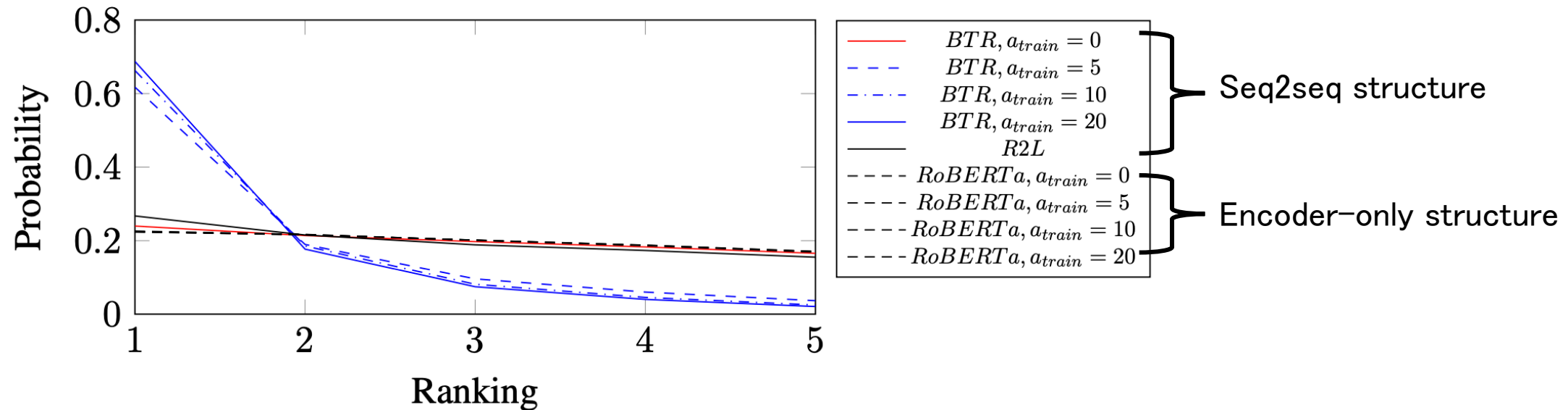


Figure 2: Average probability for each rank on the CoNLL-14 test set. The top-5 candidate sentences were generated by T5GEC.

Thank You

