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Introduction

Chatbots powered by LLMs are being used by English learners to practice their language skills in real, conversational contexts.

However, state of the art bots often generate outputs requiring already high degree of proficiency in English to understand, making it difficult for less proficient English learners to converse with them.

We explore techniques to make chatbots automatically adapt their outputs in response to the detected proficiency level of the user conversing with them.

Methodology

We use CEFR (Common European Framework of Reference for Languages) advancement levels as a proxy measure for both user proficiency and complexity alignment of model outputs

We implemented a ranking metric for the vocabulary logits of models, rewarding and penalizing next tokens depending on their distance from the desired level of generation.

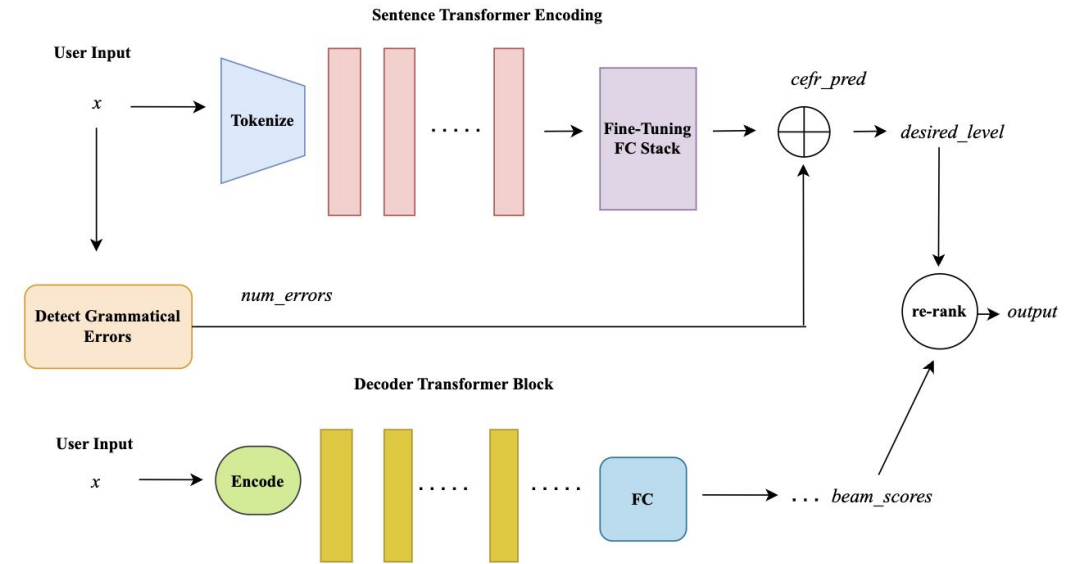


Figure 1: Overview of our proposed method for controlling generation of tokens to align with desired complexity level

Results

Prompt:	'My cute dog'	'Historically, America	'Despite objections to his policies, the President'
A1	'My cute dog is one of the best dogs in the world, and I love her so much that she is the only one who loves me.'	'Historically, America has had the largest population of immigrants to the U.S. since the Civil War. Today, the country is the second largest in the world.'	'Despite objections to his policies, the President, who took over at the beginning on April 15, said he was trying to change our foreign policy- "I'm sorry"'
C2	'My cute dog is my favorite! I love it! It is a cute little toy and I am very happy!!'	'Historically, America has relied on a large-based, well-organized, multi-state government, and it remains one.'	'Despite objections to his policies, the President has said that the U.S. is the only country in the world to have the right to free the press, and that he will not allow the media to interfere with the election of the president.'
Model	GPT2	DistilGPT2	DistilGPT2

Figure 2: Examples of different beam search results obtained when varying the desired level of generation in an autocomplete model scenario