

## **Enabling Language Models to Fill in the Blanks**

### **The main aim and problems**

The main idea is that text generation systems, at least enough of them, can generate text based on the previous one. The purpose of the work is to present a fast and affordable approach to building text generation systems. With this approach, it is possible to load an existing language model that has been previously pre-trained, subsequently giving it the opportunity to fill in the same number and length of spaces in the document. The bottom line is that the model is configured using artificially generated examples. This is a challenging problem because it requires understanding the meaning and context of the sentence, as well as generating text that is coherent and grammatically correct. The main aim of the authors is to adapt the existing language models and make them perform a more general task of filling.

Overall, the paper makes a valuable contribution to the field of natural language processing and provides a new technique for text completion that combines the strengths of pre-trained language models and structured prediction methods. And as the experiments mentioned by the author show, people have difficulty recognizing sentences that have been generated in this way.

### **Main methodology/ Tools**

As the main methodology and tools in this article, pre-trained language models were used, which are the basis of the text completion method. The pre-trained model is fine-tuned on a large corpus of texts to adapt it to the task of completing the text. Recently, many models have appeared that can perform language modeling. Enough of these models can provide human-like performance. Data is mainly trained on a large amount of untagged data, which requires a large number of resources and calculations.

In addition, structured prediction is used: the authors combine a finely tuned language model with a structured prediction method to fill in the missing tokens.

Mask function: The authors use the purpose of masked language modeling (MLM) from pre-training to fine-tuning a pre-trained language model. This includes randomly masking some tokens in the input offer and training the model to predict masked tokens.

In general, the authors use a combination of pre-trained language models, structured prediction, and ray search to develop a text completion method that surpasses the basic methods on benchmark datasets.

## **Conclusions**

The conclusions that can be drawn based on the article are that pre-trained language models can be effectively adapted to the task of completing a text by fine-tuning on a large corpus of texts.

The combination of a fine-tuned language model with a structured prediction method leads to an increase in the performance of text completion compared to basic methods.

The purpose of masked language modeling from pre—learning is a useful method of fine-tuning pre-trained language models to complete text.

In general, the authors provide evidence that their text completion method, based on fine-tuned language models and structured forecasting, is effective and superior to the basic methods on reference datasets. These results show that pre-trained language models can be effectively adapted to a wide range of natural language processing tasks, including text completion.