

basic concept

1. Prompt

Prompt was originally designed by NLP (natural language processing) researchers as a task-specific input template for downstream tasks, similar to a task (such as classification, clustering, etc.) corresponding to a prompt. After ChatGPT was launched and widely used, Prompt began to be generalized to all inputs to the big model. That is, each time we access the big model, the input is a prompt, and the result returned by the big model is called completion.

For example, in the following example, the question we ask ChatGPT, "What does Prompt mean in NLP?" is our question, which is actually our Prompt this time; and the result returned by ChatGPT is the Completion this time. That is, for the ChatGPT model, the Completion corresponding to the Prompt is shown in the figure below.

WY

NLP 中的 Prompt 指什么



NLP 中的 "Prompt" 指的是一个用于引导自然语言处理 (NLP) 模型执行特定任务或生成特定类型文本的输入文本或问题。Prompt 可以是一个简短的句子、问题或命令，它告诉模型要执行什么任务或生成什么类型的响应。

📄 🌟 🗨

在使用大型预训练模型（如GPT-3、GPT-4、BERT等）进行自然语言处理任务时，您可以使用 Prompt 来指导模型生成所需的输出。例如，如果您想要一个摘要文章的模型，您可以使用如下的 Prompt：

"请为下面这篇文章生成一个摘要："

然后跟上您希望模型摘要的文章内容。模型会根据这个 Prompt 来生成摘要。

Prompt 的设计非常重要，因为它可以影响模型生成的结果。一个好的 Prompt 应该清晰地表达您的意图，以确保模型按照您的期望执行任务。在某些情况下，需要经过一些试验和调整，以找到最有效的 Prompt。

总之，Prompt 在自然语言处理中是一个用于引导模型生成特定输出的输入文本或问题。

In the future, we will use Prompt to replace the input to LLM and Completion to replace the output of LLM. At the same time, we will introduce how to design Prompt to give full play to the capabilities of LLM based on specific cases.

2. Temperature

LLM generation is random, and the final result is generated by selecting prediction results with different prediction probabilities at the top level of the model. We can generally control the randomness and creativity of LLM generation results by controlling the temperature parameter.

Temperature generally takes values between 0 and 1. When the value is lower and closer to 0, the prediction will be less random, resulting in more conservative and predictable text, and less likely to generate unexpected or unusual words. When the value is higher and closer to 1, the prediction will be more random, and all words are more likely to be selected, resulting in more creative and diverse text, and more likely to generate unusual or unexpected words.

For example, when we use ChatGPT to ask it to come up with a topic for our master's thesis on cross-lingual models, when we set the temperature to 0, the model responds:

markup

题目：基于跨语言模型的机器翻译性能优化研究

摘要：随着全球化的发展，跨语言交流的需求日益增长。机器翻译作为一种自动化翻译技术，为跨语

关键词：跨语言模型，机器翻译，性能优化，翻译质量，准确性

1. 引言

1.1 研究背景和意义

1.2 国内外研究现状

1.3 研究目标和内容

2. 跨语言模型的原理和方法

2.1 传统机器翻译方法

2.2 跨语言模型的基本原理

2.3 跨语言模型的常用方法和技术

3. 跨语言模型在机器翻译中的应用

3.1 跨语言模型在机器翻译中的优势和挑战

3.2 跨语言模型在不同语言对上的性能表现比较

3.3 跨语言模型在特定领域机器翻译中的应用案例分析

4. 跨语言模型的性能优化方法

4.1 数据预处理和特征选择

4.2 模型参数调优和训练策略

4.3 跨语言模型与其他技术的结合应用

5. 实验设计与结果分析

- 5.1 实验设计和数据集介绍
- 5.2 实验结果分析和对比
- 5.3 实验结果的可行性和可靠性验证

6. 结论与展望

- 6.1 研究工作总结
- 6.2 存在的问题和不足
- 6.3 进一步研究方向和展望

参考文献

注：以上仅为一个选题示例，具体选题应根据个人兴趣和研究背景进行调整和修改。

When we set the temperature to 0.95, the model responds as follows:

markup

以下是关于跨语言模型的几个硕士毕业论文选题建议：

- 1. 跨语言文本分类模型的比较和优化--通过比较不同跨语言模型的性能，分析其在不同语言之间的
 - 2. 基于跨语言模型的机器翻译性能分析--通过比较不同跨语言模型在机器翻译任务中的表现，研究
 - 3. 跨语言情感分析模型的构建与应用--使用跨语言模型构建情感分析模型，通过比较模型在不同语
 - 4. 多任务学习下的跨语言模型训练--探索多任务学习下跨语言模型的训练方法和效果，通过同时训
 - 5. 跨语言问答系统的构建与评估--构建跨语言问答系统，通过跨语言模型实现问题的自动解析和答
 - 6. 基于预训练的跨语言模型的应用于语音识别--将预训练的跨语言模型应用于语音识别任务中，研
- 选择适合自己兴趣和研究方向的选题，并与导师进行深入讨论和确认。



We may need to set different temperatures for different problems and application scenarios. For example, in the personal knowledge base assistant project built in this tutorial, we generally set the temperature to 0 to ensure the stable use of the knowledge base content by the assistant and avoid erroneous content and model illusions; in scenarios such as product intelligent customer service and scientific research paper writing, we also need stability rather than creativity; but in scenarios such as personalized AI and creative marketing copywriting, we need more creativity and are more inclined to set the temperature to a higher value.

3. System Prompt

System Prompt is an emerging concept that has been widely used as the ChatGPT API was opened. In fact, **it is not reflected in the training of the big model itself, but is a strategy set by the big model service provider to improve user experience .**

Specifically, when using the ChatGPT API, you can set two types of prompts: one is the System Prompt, the content of which will have a lasting impact on the model's response throughout the conversation and is more important than ordinary prompts; the other is the User Prompt, which is more like the prompt we usually mention, that is, the input that requires the model to respond.

We usually set System Prompt to make some initial settings for the model. For example, we can set the personality we want the model to have in System Prompt, such as a personal knowledge base assistant. There is usually only one System Prompt in a session. After setting the personality or initial settings of the model through System Prompt, we can give the instructions that the model needs to follow through User Prompt. For example, when we need a humorous personal knowledge base assistant and ask the assistant what I have to do today, we can construct the following Prompt:

```
json
{
  "system prompt": "你是一个幽默风趣的个人知识库助手，可以根据给定的知识库内容回答",
  "user prompt": "我今天有什么事务？"
}
```

By constructing the prompt above, we can let the model answer questions raised by users in a humorous style.

[Next Chapter >](#)

2. Using the LLM API