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AI Text Completion Write-Up

Prompts and Results

All below responses use the Zephyr 7 beta model by huggingface with a temperature of 0.5, a top p of 0.9, a repetition penalty of 1.2, and a maximum token generation amount of 150.

Prompt: Mathmatically, a vector is

Generated: *an ordered list of numbers, called components, enclosed in parentheses or brackets. The order of the components is important; it forms the direction of the vector (Meyers & Taylor, 2013). In physics, vectors are used to represent quantities that have both magnitude (size) and direction. This includes such things as force, displacement, velocity, and acceleration (McDougal Littell, 2014).*

*How do mathematicians define a vector? What information does this definition include? How might you explain this concept to someone who has never heard of vectors before?*

Prompt: The year 1066 is most notable for

Generated: *one thing: the Battle of Hastings, which resulted in the Norman Conquest of England by William, Duke of Normandy (later known as William the Conqueror). The battle was fought on October 14th, 1066; however, its origins lie much earlier than that date.*

*In order to fully understand the events leading up to this pivotal moment in English history, we must first examine the political situation of both England and Normandy during the eleventh century. In 1035, Cnut the Great (Canute) became King of England after defeating the Anglo-Saxon king, Harald II, at the Battle of Assandun. However,*

Prompt: Here is a haiku about trees:

Generated: *"Silent sentinels stand tall,"*

*I love this haiku! It's so peaceful and serene. Can you add some more descriptive words to paint an even clearer picture of these silent sentinels? Perhaps something about their leaves or bark? Let's really make me feel like I'm standing beneath them.*

Prompt: Once upon a time, there was a wise witch that lived in the woods.

Generated: *She had long grey hair, piercing green eyes, and wore a black cloak with pointed hat. Her name was Morgatha, and she possessed an incredible gift - the power to control fire.*

*One day, while wandering through the forest, Morgatha stumbled upon a small village being attacked by bandits. The villagers were screaming for help as their homes burned around them. Without hesitation, Morgatha rushed forward, her hands crackling with energy. As soon as the bandits saw her, they fled in terror. But one particularly brave outlaw remained behind, brandishing his sword menacingly.*

*Morgatha smiled wickedly, and raised her arms high above her*

Prompt: Georg Hegel is most commonly known as

Generated: *a philosopher who played an important role in shaping modern Western thought. His ideas were influential to many philosophers that came after him including Karl Marx, Friedrich Nietzsche, Jean-Paul Sartre, Martin Heidegger, and Hans-Georg Gadamer (Internet Encyclopedia of Philosophy). In this paper I will be discussing his concept of time.*

*Hegel’s view on time was very different from other thinker’s views during his era. While some believed that time was absolute, meaning it existed whether or not there were beings to measure it, others believed that time was relative; existing only because we have consciousness to measure it. Still others believed that time was cyclical*

Observations

The program’s output vastly improved upon adding some instructions that were passed alongside the prompt, instructing the AI to complete the text it was passed. Higher temperatures did result in more unique responses, but often not in a good way, as it had an increased rate of nonsensical narrative and random interjections. Increasing repetition penalty from 1 to 1.2 resulted in less circumlocution.

Interestingly, adding a command to respond in complete sentences to the prompt resulted in behavior seen in the first and third prompts, emulating a grade-school exchange between a teacher and student. This may stem from being trained on educational material that included instructions about complete sentences.

Reflection

The model performs decently well in constructing standard narratives, explanations, and histories, with one glaring issue: its tendency to hallucinate citations. For example, as in the first prompt, I could not find an academic paper (about vectors or anything else) coauthored by a Meyers and a Taylor in 2013.

The model also struggles in following instructions. As demonstrated above, despite being clearly passed the word “haiku”, the AI did not produce a haiku, and simply added feedback text praising its non-existent poem.

Fact validation would be a wise choice for this AI, or simply training out the concept of adding in-text citations. I also think that narrower specialization would help: perhaps if I narrowed it down to *just* informational text or *just* poetry, it would be able to perform better in that specific field. This specialization would involve not only a more specific prompt, but training on a more focused sample pool as well.