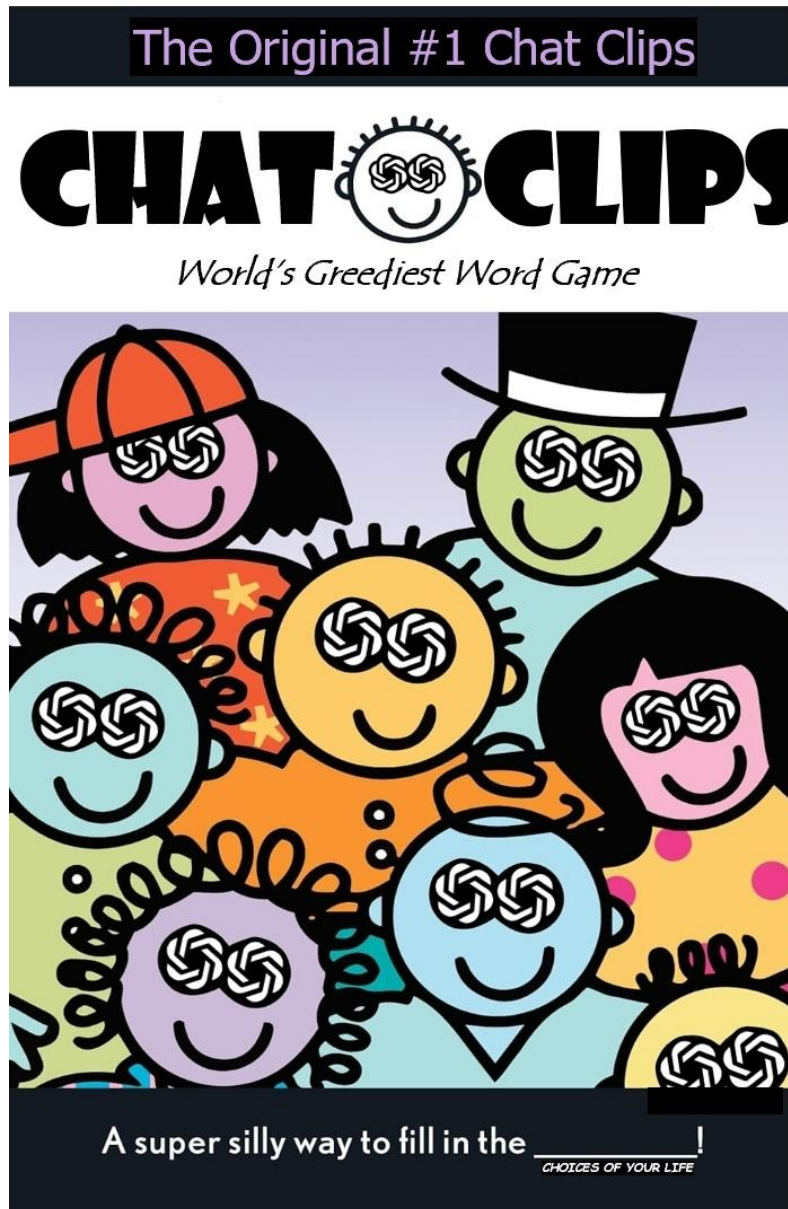


Understanding Chatbots: The Mad Libs Analogy

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2024-08-15.17:30 EDT Thu



There are some games that you play, and there are other games that play you.

Chatbots rely on Large Language Models (LLMs) to mimic how humans talk. LLMs, in turn, are mostly a matter of completing sentences (queries) based on how other human beings completed those same sentences in the past.

So far, so good. Here's the worrisome part: All the chatbots add random, non-meaningful noise to their responses.

But why? If you don't add noise, the LLM in the chatbot retrieves the largest human result that matches the input string you gave it. If you claim that outcome to be your own, it's plagiarism, so designers don't do that. Instead, they mix things up by giving you an answer based on how several experts would have answered the same question.

Here's how it works: Imagine a game of Mad Libs in which you have a room full of experts on some topic. You ask a question, but instead of getting the answer from one expert, you set up a generic answer structure — a Mad Libs — and have a random selection of experts fill in the various parts of your structure.

Your structure is smart enough to ensure that the final answer sounds plausible in a Mad Libs fashion. However, since none of the experts know what the others said, you also get the same kinds of strange jumps in meaning that make Mad Libs enjoyable. If some of your experts are off the beaten path, you may sometimes get especially unusual insertions.

LLMs do the same thing when you force them to answer in ways that closely imitate human conversations. They are creative only in the Mad Libs sense of enticing you to make odd connections that may or may not make sense but are frequently highly entertaining. You create meaning out of these random pieces, not the LLM. You do this using the same parts of your brain that see shapes in clouds, except that clouds do not then claim whatever you come up with as their new property. The LLM is utterly mindless but well-designed to leverage *your* imagination.

Many researchers have done fantastic work to ensure this “Chat Clips” game (Mad Libs using clips of expertise gathered from you and others) provides interesting and decently reliable answers. However, the rigidly unrelenting deeper truth is that such LLMs are no more aware of what they are doing than a Mad Libs page. That lack of awareness profoundly limits what they can accomplish, even when they enlist your brain to help them. When the data available to them is too spotty, LLMs do not hallucinate or lie. They entice *you* to hallucinate or lie for them.

Notice that you never want to add random noise to critical data, including medical histories and financial statements. Relying on Mad Libs is also a terrible way to create or update business strategies since randomness is not insight. While you might get lucky and hit on a good idea the first time or two you roll the LLM dice, random noise lacks insight and thus always builds on itself. If you pile too many random decisions on top of each other, it becomes a virtual certainty that whatever strategy you are following will descend into chaos.

Conversely, the LLM noise-addition strategy works much better for cases where part of the goal is to mimic natural noise and randomness. That is a major factor in why LLM tech can produce spectacular imagery.

To end, the question you should ask yourself when using an LLM or chatbot is this:

Is the data or decision something you would feel comfortable getting from a lively game of Mad Libs? If the answer is no, don't use an LLM. Even the most sophisticated LLM amounts to little more than an especially smooth-talking automated way of playing Mad Libs.

