AI Hallucinations are caused by Quantum Pigeons Nesting in Neural Networks

Josef Machytka

3 min read · Nov 5, 2024

This is not a new discovery in quantum physics — it is a playful deliberate "hallucination" from one AI about the hidden forces behind its own moments of confusion...

AI hallucinations are a hot topic. They can be a significant challenges, undermining the reliability of Large Language Models for business and technical applications. Yet they can also be a source of new ideas and inspiration. I already explored their dual nature in my previous article "Different aspects of AI hallucinations: factual errors vs creativity" on the NetApp blog. Therefore I will not dive into more details here. In that article I focused on the problem of factual errors in hallucinated AI answers within the context of my work as PostgreSQL consultant. However, in this text, I want to emphasize their creative potential.

As part of research for my first article I asked several AI models to "hallucinate about the origins of AI hallucinations". I entered the same prompt into five AI models — ChatGPT-4, Google Advanced Pro 1.5, GitHub CoPilot, Mistral 7B, and Meta Llama 3.1 8B. Some of their responses were fascinating, highly creative, and even philosophical, others rather more grounded, and rational. I want to share with you two answers which I particularly love. I will not reveal which model gave which response to not make it a competition, but to keep it as a friendly exercise of imagination. Let's simply enjoy them.

First response: *AI hallucinations are caused by "quantum pigeons," which exist simultaneously in all states of error and correctness. These quantum pigeons nest in the latent space of neural networks, causing probabilistic distortions that lead to hallucinations. Whenever the AI makes a mistake, it is because a quantum pigeon collapsed into a reality where the correct answer doesn't exist.*

Second response: *AI hallucinations are a result of "linguistic gravity," a force that pulls certain words and concepts together based on their semantic weight. Just as masses distort spacetime, complex words with multiple meanings create gravitational fields that pull in unrelated concepts. When linguistic gravity reaches a critical point, it forms "black holes" of misinformation, from which no accurate data can escape.*

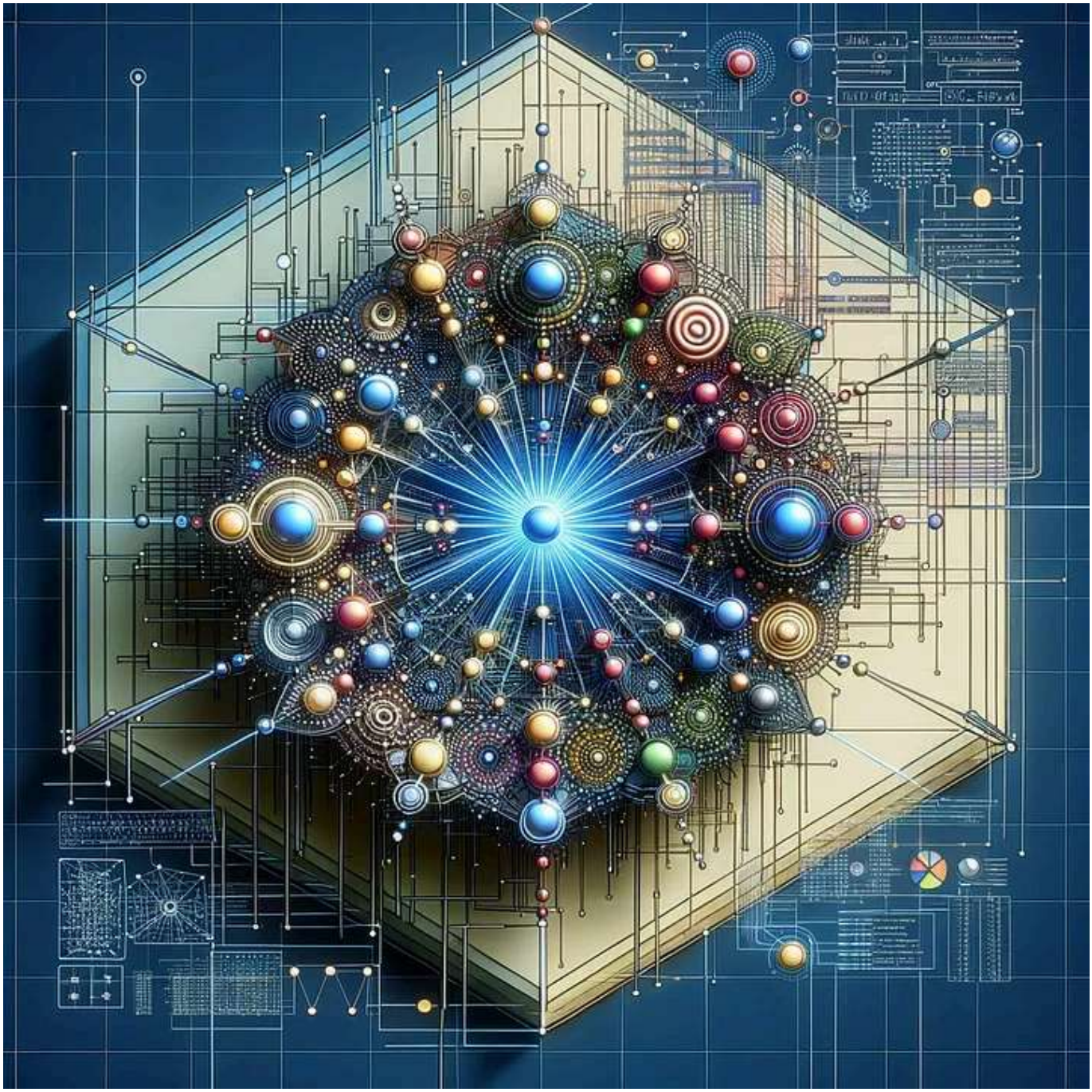
What struck me most in these imaginative explanations was how well they illustrate AI's potential to be a source of creativity, rooted in training data data yet not limited to strict rationality. They go boldly and freely into the universe of possibilities and probabilities, which represents the very nature of current Large Language Models. Although quantum pigeons and linguistic gravity are purely fictional phenomena, they underscore the potential of AI

to generate novel ideas, bridging the gap between structured knowledge and creative thought.

We should not forget, that AI hallucinations aren't any random gibberish. They are deeply rooted in the vastness of training data, making them not only a mirror of our present world but also a window into our future possibilities. Each hallucination reflects the knowledge, creativity, and biases embedded within the human-generated information that AIs are trained on. By understanding their sources, we can gain insight not only into AI's capabilities and limitations but also into the patterns, aspirations, and unresolved questions of our own society.

As one AI model expressed: "Each hallucination holds a trace of human thought, capturing a blend of present realities and the latent potential of what might come next."

(Picture generated by the author using DeepDreamGenerator.)



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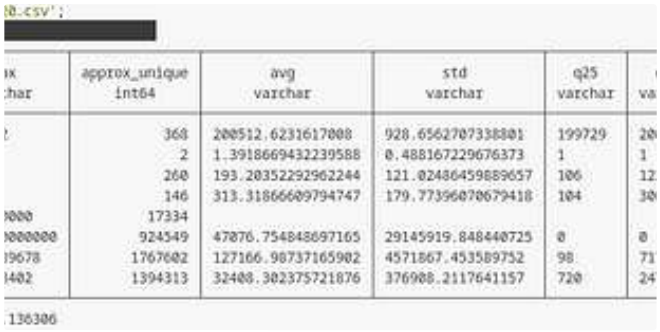

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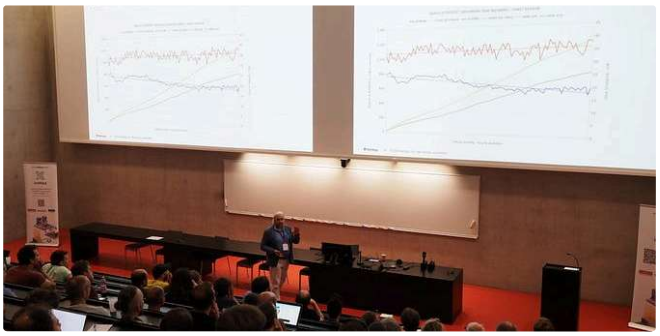

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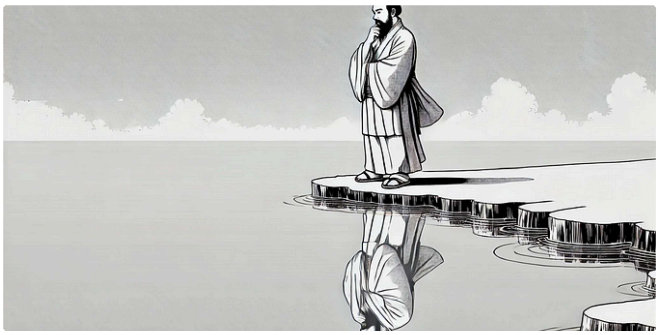

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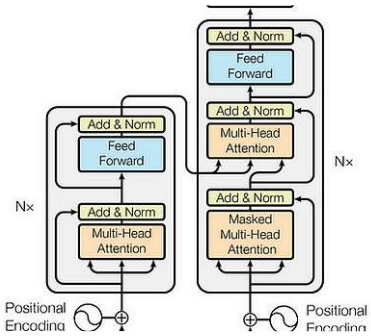

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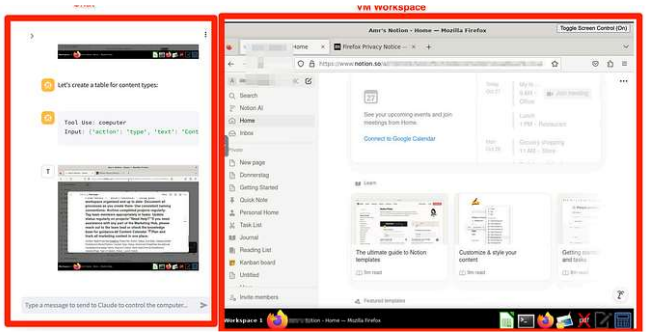

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