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Identifying Confirmed Resemblances in Problem-Solving Engineering, Both in the Past and Present

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Abstract : Introduction:The widespread availability of artificial intelligence, exemplified by Generative Pre-trained Transformers (GPT) relying on large language models (LLM), has caused a seismic shift in the realm of knowledge. Everyone now has the capacity to swiftly learn how these models can either serve them well or not. Today, conversational AI like ChatGPT is grounded in neural transformer models, a significant advance in natural language processing facilitated by the emergence of renowned LLMs constructed using neural transformer architecture. Inventiveness of an LLM : OpenAI's GPT-3 stands as a premier LLM, capable of handling a broad spectrum of natural language processing tasks without requiring fine-tuning, reliably producing text that reads as if authored by humans. However, even with an understanding of how LLMs respond to questions asked, there may be lurking behind OpenAI's seemingly endless responses an inventive model yet to be uncovered. There may be some unforeseen reasoning emerging from the interconnection of neural networks here. Just as a Soviet researcher in the 1940s questioned the existence of Common factors in inventions, enabling an Under standing of how and according to what principles humans create them, it is equally legitimate today to explore whether solutions provided by LLMs to complex problems also share common denominators. Theory of Inventive Problem Solving (TRIZ) : We will revisit some fundamentals of TRIZ and how Genrich ALTSHULLER was inspired by the idea that inventions and innovations are essential means to solve societal problems. It's crucial to note that traditional problem-solving methods often fall short in discovering innovative solutions. The design team is frequently hampered by psychological barriers stemming from confinement within a highly specialized knowledge domain that is difficult to question. We presume ChatGPT Utilizes TRIZ 40. Hence, the objective of this research is to decipher the inventive model of LLMs, particularly that of ChatGPT, through a comparative study. This will enhance the efficiency of sustainable innovation processes and shed light on how the construction of a solution to a complex problem was devised. Description of the Experimental Protocol : To confirm or reject our main hypothesis that is to determine whether ChatGPT uses TRIZ, we will follow a stringent protocol that we will detail, drawing on insights from a panel of two TRIZ experts. Conclusion and Future Directions : In this endeavor, we sought to comprehend how an LLM like GPT addresses complex challenges. Our goal was to analyze the inventive model of responses provided by an LLM, specifically ChatGPT, by comparing it to an existing standard model: TRIZ 40. Of course, problem solving is our main focus in our endeavours.

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