

Are Large Language Models Formalized Intuition?

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Recently, I've had the idea that large language models (LLMs) essentially take a computational approach towards what psychiatrist Carl Gustav Jung called *intuition*.¹ I told ChatGPT about this idea, and a conversation ensued which resulted in the creation of this article.

Intuition is commonly defined as an unconscious apprehension of relationships. Intuition enables humans to make quick judgments based on experience, without consciously tracing every intermediate step. In cognitive psychology,

intuition corresponds to what Daniel Kahneman calls "System 1": a mode of thinking that is automatic, associative, and experience-based.²

Intuition as Implicit Pattern Recognition

Intuitive decisions are not the product of some mystical instinct but rather the condensation of experience into implicit knowledge. Humans recognize patterns and probabilities without formulating them explicitly. These implicit representations arise through repeated perception

and emotional evaluation of situations. Intuition is, therefore, not irrational but pre-rational, a precursor of rational understanding.

The “Reasoning” of Language Models

LLMs, such as GPT-5, operate according to a mechanism very different from the human brain—and yet, the results often appear similar. An LLM is trained on billions of text examples and learns which word sequences, sentence structures, and semantic relationships typically occur together. The LLM forms implicit representations of meaning in high-dimensional vector spaces.

When generating a response, the model does not apply explicit rules of logic, and it performs no deductive reasoning; instead, it recognizes probabilistic patterns, much as human intuition “grasps” a situation rather than logically deriving it.

Quasi-Intuitive Inference

One could therefore describe the “reasoning” of an LLM as quasi-intuitive:

- It operates unconsciously, beyond explicit rule-application.
- It is grounded in the condensation of massive experiential data.
- It functions associatively rather than syllogistically.

However, LLMs lack two crucial dimensions of human intuition:

- Phenomenological consciousness: they do not feel their decisions.
- Semantic intentionality: they do not understand what their statements refer to.

Analytical Representations of the Intuitive

Nevertheless, neural networks can be seen as a kind of formalized intuition. Whereas human intuition arises unconsciously from experience, an LLM’s “intuition” is produced through an analytical procedure: the training process of back-propagation. What appears spontaneous and emotion-driven in humans is, in LLMs, encoded mathematically in weights and vector spaces, an algorithmic distillation of collective experience.

To put it succinctly: A neural network is the analytical reconstruction of intuition derived from data.

Conclusion

Large language models are neither rational thinkers nor random generators. They represent a new form of cognitive activity: a synthetic intuition emerging not from personal experience but from vast datasets.

In a certain sense, LLMs mirror the workings of human intuition—but without consciousness, emotion, or self-reference.

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1. Sergey Markov, “Carl Jung—Swiss Psychiatrist and Founder of Analytical Psychology,” *Genrive* (November 27, 2024), <https://geniusrevive.com/en/carl-jung-swiss-psychiatrist-the-founder-of-analytical-psychology/>.

2. Lea Winerman, “A Machine for Jumping to Conclusions,” *American Psychological Association* 43, no. 2 (February 2012), <https://www.apa.org/monitor/2012/02/conclusions>. 