Derrida on AI

Description

Can we be sure of anything in a world of rampant simulation and AI generated text and imagery? Thatâ??s an update on age-old questions about truth.

The radical philosopher Jacques Derrida sought to demonstrate the contradictions inherent in any attempt to establish certainties. Thatâ??s different to saying â??there is no truth.â?• But thatâ??s a distinction I leave to philosophers for the time being, though Iâ??ve given it my best shot in the book *Derrida for Architects* and various blog posts.

Iâ??m more interested in the prime example Derrida deploys to demonstrate his challenge to conventional questions about language. His philosophy is particularly relevant in the context of natural language processing, conversational AI and large language models (LLMs).

Speech before text

Derrida chose as his prime example the common proposition that before we humans could write anything down, we had to be able to speak. Thereâ??s a history to that particular proposition, its reference to language, and its metaphysical importance, relating to concepts of originality, authenticity, and semiotics.

Here is the conventional view that Derrida sought to overturn in his discussions about writing and speech. The ability to write things down, print, and store texts is a secondary human capability. Pre-historical humans spoke, orated, recited, and memorised without the ability to write. Writing came later.

According to this argument, speech is closer to pure thought than writing. In spite of the benefits of writing, raw speech provides access to authentic being, originality and truth. That reflects the common view (by Marshall Mcluhan and others) that aural (pre-literate) cultures are more sociable than visual cultures, and enjoy more immediate engagement with environment. Iâ??ve explored the implications of that idea in my book *The Tuning of Place.*

But being able to store and retrieve speech as text is one of the hallmarks of cultured, enduring, technologically sophisticated and historically aware societies. This conventional argument maintains that such text-based achievements depend on speech as the primary exemplar of human sociability and development.

Text before speech

Derridaâ??s contrary point is that any attempt by philosophers to establish the priority of speech over writing has to draw on the attributes of writing (i.e. text). You canâ??t talk about speaking without drawing on explanations, terms, and metaphors that presume the pre-existence of writing.

How does the development of large language models (LLMs) impinge on this argument? As if in evidence of the priority of writing in language acquisition and knowledge creation, LLMs depend on text in their training â?? vast corpuses of text files (writings). The giant neural network models that power LLMs undergo incremental parameter adjustments to yield conversational exchanges with convincing linguistic competence and even more remarkable demonstrations of knowledge and apparent â??understandingâ?• synthesised from exposure to all those training texts.

Humans versus machines

Of course, human learners do not develop language competence primarily from reading texts but from listening, speaking, and responding to feedback and corrections in everyday worldly settings â?? material and social.

As yet there is no theoretical or practical way to train a neural network on masses of voice input (e.g. recordings of people talking in social settings) that would come close to the competence demonstrated by LLMs such as ChatGPT. On this point, the voice chat app pointed to the prohibitive storage and processing demands of dealing with large audio files, the lack of standardisation among speaking voices, and the technical challenges of taking account of large scale context. (I discuss the operations of LLMs based on the popular Transformer model in previous posts).

Rather than train a neural network on voice input it would be more efficient to first subject the input to automated speech-to-text translation. That departs further from the psychology of human language acquisition. It would also bring the discussion back to writing as the primary vehicle for learning to use language.

Making do with text

As itâ??s difficult to envisage a technology that would acquire language competence and access to knowledge in ways analogous to the development of human cognition, we have to make do with text inputs to LLMs. That happens to be a highly efficient way of short circuiting the complexity of language and knowledge acquisition. It turns out that text is sufficient. A reliance on text more than compensates for the lack of experience and world engagement of AI-based machine learning.

My encounter with the voice text app concurred.

> Text, indeed, serves as a rich repository of human experience, encapsulating the thoughts, emotions, and contexts of its authors. When large language models are trained on vast amounts of text, they inherently absorb these human experiences and the complexity of various situations described within the text. â?¦ This way, the models can, to some extent, replicate or reflect human-like understanding and responses without needing to have lived those experiences directly. â?¦ Thus, while LLMs are trained on text, they are also, in a way, trained on the human experiences that give rise to that text.

Itâ??s not just a practical matter

The voice chat app leveraged off my own observations about the confluence between Derridaâ??s thought and the functioning of LLMs and put the case more clearly than I could.

> From a philosophical perspective, the reliance on text for training large language models aligns intriguingly with Derridaâ??s ideas about the primacy of writing. Derrida argued that writing is not a mere secondary representation of speech but is fundamental to the structure of language and meaning itself. In this sense, the efficiency and effectiveness of text-based language models can be seen as a modern validation of Derridaâ??s theory.
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> By starting with text, we acknowledge the structured, persistent nature of written language, which allows for extensive analysis and pattern recognition. Text is fixed and can be revisited and scrutinized, much like Derridaâ??s idea of writing as a stable yet dynamic foundation for meaning.
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> In contrast, spoken language is ephemeral, often context-dependent, and influenced by immediate interactional factors, making it less straightforward to analyze systematically on a large scale. The difficulty of building models based purely on speech reflects the complexities and nuances of spoken communication, which Derrida suggested were already embedded within the â??writingâ?• of language.

In response to my prompting the voice chat app was also able to elevate a technical and pragmatic convenience â?? the basis of LLMs in text rather than speech â?? to a philosophical point in support of Derridaâ??s proposition about the primacy of writing.

> Thus, the current efficiency of text-based models not only demonstrates the practical advantages of written language for AI development but also philosophically underscores the deep-seated role of writing in the structure of human communication. This modern technological approach can be seen as an embodiment of Derridaâ??s idea that writing, in its broadest sense, underpins and shapes all forms of linguistic expression.

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1. Artificial Intelligence

Tags

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