Humans Will Lose Proper Imagination Unconsciously

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Abstract

With the maturity of sophisticated generative models, humans can generate high-quality content according to their requirements within seconds. Research has shown that human-computer co-creativity can be more imaginative. There is no doubt that this machine-in-the-loop creative process would become the primary choice for novices and professionals when developing creative artifacts. However, will humans become addicted to this creative mode and lose the ability of sole creation, and eventually get limited by machines' imagination? Furthermore, how can humans realize that these generative models are limiting their imagination instead of giving inspiration when using them to facilitate their work? In this paper, we argue that the imagination ability of computers obeys normal distribution when seeded with different input prompts and there are merely outliers. We take creative writing as a study case and design a series of speculative workshops. We then analyze the quality of text generated by the latest and most powerful large-language model during the workshops and carry out semi-structured interviews with professional reviewers. The results show that machines' imagination capacity may be the boundary that humans can hardly breakthrough in the future. Instead, humans are likely to get trapped in the iterative creation of the existing data (i.e., the newly generated and published content this time becomes part of the existing datasets for generating new content next time), and humans' imagination might be substituted by machines' imagination in the end. Therefore, we call for research for humans to break through the limitation of machines' imagination. Such breaking can be purely done by humans or with the support of other computational creativity tools.

Keywords

Generative AI, Imagination, Speculative Design