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Editorial

Will AI Outperform Humans in Medicine and in General? The Answer will be Determined by Humans Themselves

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Editorial

I am an expert on Artificial Intelligence (AI) in medicine to combine the strengths of various deep learning models (i.e., the Convolutional Neural Network (CNN) specialized for image data and the Recurrent Neural Network (RNN) specialized for sequence data) then apply the combined model for various data in various sectors. For example, I am developing a three-component model of real-time diagnosis and prognosis for arthritis, depression and other chronic diseases: CNNs based on image data for real-time diagnosis (classification); next generating sequencing based on genetic data; and RNNs based on electronic medical records for real-time prognosis (prediction).

As such an expert on AI in medicine, I often encounter a challenging question, "Will AI outperform humans in medicine and in general? If so, when?" Based on the results of a large survey for AI researchers [1], these respondents expect that AI will surpass humans in many areas in the next ten years, e.g., language translation by 2024, essay writing by 2026, truck driving by 2027, retail sales by 2031, book writing by 2049 and surgical operation by 2053. Indeed, these researchers predict that there is a 0.5 probability of AI outstripping all human activities in 45 years and replacing all human jobs in 120 years, with Asian respondents expecting these dates to be much sooner.

These findings might be informative for clinical experts, some of whom get worried about their status relative to AI in the future. However, the results above might ignore an important fact that performance measures are defined by social contexts. If humans make their conversation, interaction and organization more predictable in terms of quantitative measures (hence easier to be imitated by AI), AI will outperform them across the board as the AI researchers predict. On the contrary, if humans refuse to act and organize like machines and instead expand qualitative, holistic aspects of their life and society ("the very features AI cannot learn"), they will manage to secure their lead over AI in core areas for several hundred years to come.

References

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