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The Relationship between Cognition and Computation

What question is fundamental for the development of a new generation of artificial intelligence? We believe the key issue to address is the relationship between cognition and computation. For example, the question of broad interest "Will artificial intelligence replace human mind" is essentially and scientifically an issue related to the relationship between cognition and computation.

The relationship between cognition and computation can be further divided into four aspects: 1) The relationship between the primitives of cognition and computation; 2) The relationship between the anatomic structure of neural representation of cognition and the computational architecture of artificial intelligence; 3) The relationship between emergent mental phenomena in cognition and emergent information processes in computation; 4) The relationship between mathematical foundations of cognition and computation.

Biography

Lin Chen, Professor, Institute of Biophysics, Chinese Academy of Sciences and Director, Beijing MRI Center for Brain Research. He is an elected member of Chinese Academy of Sciences and elected member of TWAS (Academy of Sciences for the Developing World), and president, Chinese Cognitive Science Society. He is also a winner of "Outstanding Scientists Award", Qiu Shi Science & Technologies Foundation (Hong Kong).