

Special Issue

Kolmogorov Complexity and Applications—Dedicated to Professor Paul Vitanyi on the Occasion of His 80th Birthday

Message from the Guest Editor

Over his research career, Prof. Paul Vitanyi has worked on the theory of computation and Kolmogorov complexity. He has extended Kolmogorov complexity and its applications and brought it to the wide public from obscure mathematics. His contributions to this modern information theory have influenced many researchers in many fields, from computer science to mathematics, cognitive science, biology, philosophy, and physics. Celebrating his 80th birthday, the aim of this Special Issue is to collect original research articles on the most recent research in Kolmogorov complexity, randomness, large language models, and compression, as well as comprehensive review articles covering these topics from either a theoretical or experimental viewpoint. A review can focus on either a wide context or the recent research contributions of the author(s) and related works of other researchers on the same topic. We also welcome applications of Kolmogorov complexity, information distance and one-shot learning, incompressibility methods, theories of human learning, Solomonoff induction and generative large models, and Kolmogorov structure functions.

Guest Editor

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Message from the Editor-in-Chief

The concept of entropy is traditionally a quantity in physics that has to do with temperature. However, it is now clear that entropy is deeply related to information theory and the process of inference. As such, entropic techniques have found broad application in the sciences.

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Editor-in-Chief

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