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# **Approximate Entropy and Its Application**

Guest Editor:

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Deadline for manuscript submissions: 15 August 2024

#### Message from the Guest Editor

Entropy is a fundamental property of data, and a key metric in many scientific and engineering fields, such as signal processing, computer science, medicine, physics, and more. Entropy estimation has been extensively studied, but almost always under the assumption that data are centralized and static, or reside in a single data stream, seen in its entirety by one node running the estimation algorithm. However, multiple distributed data sources are becoming increasingly common, and novel algorithms are required, for example, to quickly detect a distributed denial of service attack, by approximating the global entropy over the nodes of a distributed servers, but without centralizing the data.

Contributions are solicited which address interesting theories and applications of estimating and approximating entropy in cases where the data are dynamic, distributed, noisy, partial, or any combination of the above. Additionally, of interest are cases in which the data were subject to some transformation, for example linear transformations, projections, compression, or coding.



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## **Editor-in-Chief**

#### Prof. Dr. Kevin H. Knuth

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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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