Special Issue

Entropy, Statistical Evidence, and Scientific Inference: Evidence Functions in Theory and Applications

Message from the Guest Editors

Modern statistical evidence compares the relative support in scientific data for mathematical models. The fundamental tool of comparison is the evidence function, which is a contrast of generalized entropy discrepancies. The most commonly used evidence functions are the differences of information criterion values. Statistical evidence has many desirable properties, combining attractive features of both Bayesian and classical frequentist analysis while simultaneously avoiding many of their philosophical and practical issues. The goals of this Special Issue are to stimulate the further theoretical development of statistical evidence and present real-world examples where the use of statistical evidence clarifies scientific inference. While many of the applications featured here are ecological, reflecting the editors' areas of expertise, we welcome and anticipate accounts or critiques of evidence functions applied in other scientific areas.

Keywords: entropy; evidential statistics; evidence; hypothesis testing; information theory; Kullback–Leibler discrepancy; model misspecification; model selection

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About the Journal

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.

Entropy is an online open access journal providing an advanced forum for the development and/or application of entropic and information-theoretic studies in a wide variety of applications. *Entropy* is inviting innovative and insightful contributions. Please consider *Entropy* as an exceptional home for your manuscript.

Editor-in-Chief

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