



Information Theory Applications in Signal Processing

Guest Editors:

Prof. Dr. Sergio Cruces

Departamento de Teoría de la
Señal y Comunicaciones,
Universidad de Sevilla, Camino
de los Descubrimientos s/n,
41092 Seville, Spain

Dr. Rubén Martín-Clemente

Departamento de Teoría de la
Señal y Comunicaciones,
Universidad de Sevilla, Camino
de los Descubrimientos s/n,
41092 Seville, Spain

Dr. Wojciech Samek

Fraunhofer Heinrich Hertz
Institute HHI, 10587 Berlin,
Germany

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Message from the Guest Editors

Dear Colleagues,

Information theory plays a fundamental role in the determination of theoretical performance limits for statistical estimation, detection, and compression. Its remarkable history of success during the last few decades has fueled research on information-guided principles for data analysis and signal processing. These dynamic and fast-growing fields have to cope with increasingly complex scenarios and novel applications in component analysis, machine learning, and communications. Hence, there is a need for specific information theoretic criteria and algorithms that work in each of the considered situations and attain a set of desired goals, for instance, an enhancement in the interpretability of the solutions, improvements in performance, robustness with respect to the model uncertainties and possible data perturbations, a reliable convergence for the algorithms and any other kind of theoretical guarantees.

In this Special Issue, we encourage researchers to present their original and recent developments in information theory for advanced methods in signal processing.

Dr. Sergio Cruces
Dr. Rubén Martín-Clemente
Dr. Wojciech Samek
Guest Editors





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Editor-in-Chief

Prof. Dr. Kevin H. Knuth

Department of Physics, University
at Albany, 1400 Washington
Avenue, Albany, NY 12222, USA

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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Entropy Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

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