

Special Issue

Semantic Information Theory

Message from the Guest Editors

Information theory laid the foundation for modern communication systems, focusing primarily on the syntactic aspects of data transmission without considering the semantic meaning. Semantic communication, in contrast, concentrates on the semantic or effectiveness levels and aims to extract and convey the information to accomplish a downstream task. Due to its exceptional advantages in communication efficiency and compatibility with emerging AI applications, semantic communication has garnered significant attention. However, a unified theoretical foundation and operational analytical tools for semantic communications remain elusive. The relationship between traditional information theory and semantic communications is not yet established. Specifically, the extent to which information theory can address challenges in semantic communication is yet to be explored. This Special Issue aims to bridge this gap by fostering the convergence of information theory and semantic communications.

Guest Editors

Prof. Dr. Meixia Tao
Prof. Dr. Kai Niu
Dr. Youlong Wu

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Entropy
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
entropy@mdpi.com

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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

Prof. Dr. Kevin H. Knuth

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

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