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Special Issue

Information Theory in Game Theory

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Message from the Guest Editors

Dear Colleagues,

Information theory, as the mathematics of communication and storage of information, and game theory, seen as the mathematics of adversarial and cooperative interaction, have a potentially large synergy.

Many problems can be studied at the intersection of these two disciplines. Examples are network problems, where sharing bandwidth between agents can be seen as a game of information. Another case of interest is security, for example, where one wants to minimize the leakage of information in an adversarial setting. In other applications like machine learning, one may want, instead, to maximize the information that can be extracted in a cooperative or adversarial setting. The intersection goes beyond classical information theory: For example, game theory may be relevant when studying quantum information problems.

For this Special Issue we solicit contributions advancing the state-of-the-art at the intersection of game and information theory. We are particularly interested in foundational work (classical and quantum information) and more applied work with a principled methodology rooted in these disciplines.

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