Special Issue

Entropy-Based Applications in Sociophysics

Message from the Guest Editor

The study of sociophysics has greatly increased in the last two decades. The models used in sociophysics mainly envisage the study of the macroscopic dynamics of social systems. Then, the statistical physics tools successfully applied in treating diverse systems in the physical world are used to find extensive applications in problems related to such topics. Stauffer stated an interesting and fundamental question in 2012: does sociophysics have any practical applications? The answer to this question came in 2017 from Galam with a model that uses local-majority-rule arguments and obeys threshold dynamics. Galam applied this model to predict Trump's victory in the 2016 United States election. In fact, Galam is convinced that the dynamics of opinions obey discoverable universal quantitative laws and can be modeled in the same way that scientists model the physical world. So, opiniondynamics models have become a mainstream of research in sociophysics. In these models, opinion entropy, based on Shannon entropy, is a useful tool to evaluate the uncertainty of opinions, it is helpful for exploring the dynamics of opinion entropy and controlling the formation of public opinion.

Guest Editor

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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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