

Finding Equilibrium: Computational Intelligence and Games

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Game theory aims to model strategic interactions between agents and offers various solution concepts that are based on the paradigm of equilibrium against agents deviations. The mathematical instruments of game theory are complex and sometimes restrictive reducing the practical application of some otherwise appealing concepts to cases in which the problem presents nice mathematical properties. Such restrictions also create boundaries to the domain, making the export of these concepts to other fields unconvincing both for game theorists and for practitioners. However, computational intelligence methods can be designed to approximate different types of equilibria and reduce the gap between theory and practice. A general framework for such a design is presented, followed by a practical application in social network analysis.