



The Wisdom of Strategic Voting



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🕒 2023年5月18日 星期四 11:00am

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Abstract

We study the voting game with information uncertainty where agents can coordinate in groups. We show that strategic voting behaviors have a positive impact on leading to the "correct" decision, outperforming the common non-strategic behavior of informative voting and sincere voting. Our results give merit to strategic voting and extend the Condorcet Jury Theorem to settings with coalitional strategic agents.

We reveal the surprising equivalence between a strategy profile being a strong equilibrium and leading to the decision favored by the majority (the majority wish): as the size of the vote goes to infinity, every ϵ -strong Bayes Nash Equilibrium with ϵ converging to 0 formed by strategic agents leads to the majority wish with probability converging to 1 . On the other hand, we show that informative voting leads to the majority wish only under unbiased instances, and sincere voting leads to the majority wish only when it also forms an equilibrium. In our model, voters' preferences between two alternatives depend on a discrete state variable that is not directly observable. Each voter receives a private signal that is correlated with the state variable.

This is a joint work with Qishen Han, Grant Schoenebeck, and Lirong Xia.

Biography

Biaoshuai Tao is an assistant professor at John Hopcroft Center for Computer Science at Shanghai Jiao Tong University since 2020. In 2020, he received his Ph.D. degree in computer science at the University of Michigan, Ann Arbor. His research interests mainly include the interdisciplinary area between theoretical computer science and economics, including social network analyses, resource allocation problems, and algorithmic game theory. Before joining the University of Michigan, Biaoshuai was employed as a project officer at Nanyang Technological University in Singapore from 2012 to 2015, and he received the B.S. degree in mathematical science with a minor in computing from Nanyang Technological University in 2012.