MECHANISM DESIGN +++ SOCIAL WELFARE +++ GOVERNANCE +++ RESTRICTION +++ NORMAL-FORM GAME

We're focusing on Normal-Form Games in this paper, but an extension to multi-agent systems is outlined

In multi-player games,

allowing fewer actions

We use one-dimensional continuous action spaces and define restrictions as a list of allowed intervals

uniformly for all players

Using the same restrictions for all players creates a non-discriminatory governance scheme

can increase social welfare

Usually, this is just the sum of all players' utilities, but you can, in fact, use any function over the joint action space

...but how do we find the optimal restriction of the action space?

We find the optimal restriction with a depth-first search over tentative restrictions, using an equilibrium oracle to identify improvements

Ask us for more details!

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FULBRIGHT

Socially Optimal Non-Discriminatory Restrictions for Continuous-Action Games

by Michael Oesterle and Guni Sharon

Full paper, code, poster and contact at
https://github.com/michoest/aaai-2023