Ordinal Sparsification of Randomized Rules

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Abstract:
Sparsification is a rule by which agents refine a randomized rule to one requiring less randomization. Sparsification can be used to regularize agents' rules in the course of a simulation or, more narrowly, players' strategies in the solution of an abstracted game (strategies that then map to the strategies of an unabstracted game). Given a fixed set of rules for other agents, sparsification attains by assuming an agent (ordinally) prefers rules that would perform better more often than alternative rules. In addition to regularizing the randomization of rules, this ordinal sparsification can be used to introduce strategic decision-making among otherwise naïve agents.