

Group Fairness: Multiwinner Voting and Beyond

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Abstract

In multiwinner voting with approval ballots the agents are presented with a set of alternatives, each agent indicates which of these alternatives they approve, and the goal is to select a fixed-size subset of the alternatives, in a way that reflects the voters' preferences. This framework captures a variety of group decision-making scenarios, from choosing a list of speakers for an event to appointing a set of validators in a proof-of-stake blockchain. An important concern in many of these scenarios is group fairness: every sufficiently large group of agents with similar preferences should be represented in the winning set of alternatives. In this talk, we discuss how to formalise this idea and whether the resulting axioms can be satisfied by efficiently computable voting rules. We also discuss extensions of our framework to the more expressive setting of participatory budgeting, where the agents are presented with a slate of projects (which may have different costs) and the goal is to select a subset of projects subject to a budget constraint.

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