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WeBuildAI: Participatory Framework for Algorithmic Governance

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Algorithms increasingly govern societal functions, impacting multiple stakeholders and social groups. How can we design these algorithms to balance varying interests in a moral, legitimate way? As one answer to this question, we present WeBuildAI, a collective participatory framework that enables people to build algorithmic policy for their communities. The key idea of the framework is to enable stakeholders to construct a computational model that represents their views and to have those models vote on their behalf to create algorithmic policy. As a case study, we applied this framework to a matching algorithm that operates an on-demand food donation transportation service in order to adjudicate equity and efficiency trade-offs. The service's stakeholders—donors, volunteers, recipient organizations, and nonprofit employees—used the framework to design the algorithm through a series of studies in which we researched their experiences. Our findings suggest that the framework successfully enabled participants to build models that they felt confident represented their own beliefs. Participatory algorithm design also improved both procedural fairness and the distributive outcomes of the algorithm, raised participants' algorithmic awareness, and helped identify inconsistencies in human decision-making in the governing organization. Our work demonstrates the feasibility, potential and challenges of community involvement in algorithm design.

CCS Concepts: • **Human-centered computing → Human computer interaction (HCI)**.

Additional Key Words and Phrases: participatory algorithm design, collective participation, human-centered AI, matching algorithm, algorithmic fairness

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