AUTOMATED REASONING FOR SOCIAL CHOICE THEORY

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The research area of computational social choice deals with the application of techniques from computer science and AI to the design and analysis of mechanisms for collective decision making, including in particular democratic decision making. In this talk, I will report on one of the most exciting recent developments in the field, namely the use of automated reasoning tools, and notably so-called SAT solvers, to support social choice theorists in their quest to gain a deeper understanding of what is and what is not possible when it comes to designing fair and efficient mechanisms for decision making. No prior background in automated reasoning will be required to follow the exposition.