Computational Social Choice: A Journey from Basic Complexity Results to a Brave New World for Social Choice

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Abstract:
Social choice concerns making collective decisions based on the preferences of multiple agents, for example by voting over the alternatives. In this talk, I will cover several topics in “computational” social choice. These topics range from problems with which the field started, such as the complexity of executing and of manipulating certain voting rules, to problems arising from new applications, such as voting in combinatorial domains and in highly anonymous environments. No previous background in social choice / voting will be assumed.

Bio:
Vincent Conitzer is the Sally Dalton Robinson Professor of Computer Science and Professor of Economics at Duke University. He received Ph.D. (2006) and M.S. (2003) degrees in Computer Science from Carnegie Mellon University, and an A.B. (2001) degree in Applied Mathematics from Harvard University. His research focuses on computational aspects of microeconomics, in particular game theory, mechanism design, voting/social choice, and auctions. This work uses techniques from, and includes applications to, artificial intelligence and multiagent systems. Conitzer has received the Social Choice and Welfare Prize (2014), a Presidential Early Career Award for Scientists and Engineers (PECASE), the IJCAI Computers and Thought Award, an NSF CAREER award, the inaugural Victor Lesser dissertation award, an honorable mention for the ACM dissertation award, and several awards for papers and service at the AAAI and AAMAS conferences. Conitzer has also been named a Kavli Fellow, a Bass Fellow, a Sloan Fellow, and one of AI’s Ten to Watch. Conitzer and Preston McAfee are the founding Editors-in-Chief of the ACM Transactions on Economics and Computation (TEAC).

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