

## **Optimal Auctions over Social Networks**

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We consider the problem of selling a digital good, like a Facebook App, in a social network. We focus on goods that exhibit "tennis racket externalities" -- i.e., goods that have value only when used in conjunction with other users. In a social network, this means that the digital good has no value to a user unless at least one of his friends in the network also owns the good. This severely complicates the problem of selling the digital good as a user's value, and hence the price we can charge, depends not only on his own situation, but on the situation of his friends as well. In this talk, we develop auctions for selling such goods in a social network. Our auctions provably extract a constant fraction of the optimal revenue.

Joint work with N. Haghpanah, V. Mirrokni, and K. Munagala.