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Applying cognitive models to combine the wisdom of the crowd

In most wisdom of the crowd applications, the aggregation of human knowledge involves simple statistical methods, like finding the mean or mode of observed estimates or decisions. In this talk, three case studies are presented that demonstrate the potential of using cognitive models to do the aggregation, so that latent knowledge rather than observed behavior is combined across people. The case studies deal with estimating probabilities in football (soccer) games, combining bids made in game shows, and solving sequential decision-making tasks known as bandit problems.