

Learning in auctions.

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Due to the popularity of online advertisement, auctions have become one of the most popular mechanisms for selling things. The study and design of this auction has become crucial as they account for more than 90% of revenue made by online companies such as Google and Facebook.

Given that billions of auctions occur every day, we would expect to be able to *learn* from them. That is, figure out how much a buyer is willing to pay and charge them that. In this talk I will present the challenges of doing this. In particular I will provide theoretical guarantees on the problem of learning from samples. I will also show algorithmic solutions as well as an analysis on how to optimize revenue when buyers behave strategically. I will conclude my talk with the latest results and research directions in this field.