Observing and Optimizing Online Ad Assignments

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Core A (Room 301)

Abstract

Online ad markets play an important role in the Internet ecosystem. The main focus of the thesis is on optimization and observation of ad assignments in online ad markets.

* We introduce adscape, advertising landscape and develop a crawling capability which allows to harvest ads from across a number of websites and user profiles. We establish that user profiles are essential in display ad markets.

* We introduce and analyze cardinal auctions, in which bidders, in addition to their bid, specify their constraint on the maximum size of the allocation in which they are willing to participate.

* We observe that although advertisers bid and pay per click they have a maximum amount they are willing to pay per conversion. We capture this motivation in the problem of ad allocation with secondary targets.

In this talk I will mainly present the work on ad allocation with secondary targets. We will discuss the problem and a number of theoretical approaches to it. Finally, we will present experiments with ad allocation we have conducted in a real-world ad network.

Defense Committee: Prof. S. Muthukrishnan (Chair), Prof. Martin Farach-Colton, Prof. Badri Nath and Prof. Yaron Singer (Harvard University)