Data-Driven Pricing

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Abstract

Abstract: Pricing is central to many industries and academic disciplines ranging from Operations Research to Economics and Computer Science. At the heart of pricing lies a fundamental informational dimension regarding the level of knowledge about customers' willingness-to-pay (WTP). In this talk, I will discuss the fundamental problem of data-driven pricing: how should a decision-maker optimally construct a mapping from collected data to pricing decisions. I will discuss some of the associated challenges, the special structure associated with the nature of pricing problems, and various data regimes of interest. I will delve in more detail in a "small data" environment, the single sample regime, for which I will present some recent results that characterize optimal performance and near-optimal mechanisms.