

Faculty Name:

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Lab:

N/A

Project Title:

Two-sided Fairness in Heterogeneous Online Matchings

Description:

Traditionally, online two-sided matching markets have been employed to find profitable ways of allocating resources. Consider, for instance, online advertising problems, whose goal is to match a sequence of customers arriving in an online fashion to advertisers from a given ground set. In these models, preferences of customers do not matter – actually, they are not even really part of the input. It is then not surprising that recent years have seen the surge of studies on one-sided objective functions, such as the Nash Social Welfare, or Submodular Welfare.

In this project, the student will first get acquainted with the literature on the area, and then develop fairness concepts and algorithms for online two-sided matching markets that take into account the utility of both sides of the market, as well as their differences in goals. We will in particular focus on markets arising in social media. In such markets, the heterogeneity of the two sides requires that their utilities are defined and handled differently, thus creating a challenge and an opportunity for research.

Location of Research:

Hybrid (both Remote and On Site)

of hrs/week:

30

Department/Program:

IEOR

Eligibility:

BS

To apply, please contact:

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