



"سخنرانی های علمی"

پژوهشگاه دانشهای بنیادی
پژوهشکده علوم کامپیوتر

Fairness, Abstention, and LCS

مسعود صدیقین

پژوهشگر پسادکتر در پژوهشگاه دانشهای بنیادی (IPM)

Abstract

In this talk I give a report on my research progresses as a postdoc research fellow at IPM. This talk is consisted of three parts.

In the first part, we talk about fairness and different notions of fairness in allocation problems. We introduce EF1, EFX, maximin-share (MMS) and Nash social welfare and present an approximation results for Maximin-share in additive and non-additive settings. Next, we suggest another fairness criterion, namely *envy-freeness up to a random good* or EFR, which is weaker than EFX, yet stronger than EF1. For this notion, we provide a polynomial-time 0.73-approximation allocation algorithm.

In the second part, we talk about voting theory. In spatial voting theory, distortion is a measure of how good the winner is. It has been proved that no deterministic voting mechanism can guarantee a distortion better than 3, even for simple metrics such as a line. In the second part of this talk, we answer the following question: how does the distortion value change if we allow less motivated agents to abstain from the election?

In the third part, we consider the pseudo random edit distance and longest common subsequence problems. We sketch our method for obtaining $1+O(1)$ approximate solutions for LCS and ED in truly subquadratic running, if the input satisfies a mild condition. In our setting, first, an adversary chooses one of the input strings. Next, this string is perturbed by a random procedure, and then the adversary chooses the second string after observing the perturbed one.

Biography

Masoud Seddighin is a postdoc fellow at Institute for Research in Fundamental Sciences (IPM). He received his PhD in computer engineering from Sharif University of Technology in 2019. His research interests include approximation algorithms, algorithmic game theory and mechanism design, and computational social choice.

زمان: چهارشنبه ۷ آبان ماه ۱۳۹۹ - ساعت ۱۱:۰۰
ارائه به صورت مجازی انجام خواهد شد.

*** شرکت برای عموم علاقه مندان آزاد است ***