Department of Computer Science
香港城市大學
City University of Hong Kong

COMPUTER SCIENCE COLLOQUIUM

Beyond Regularity: Simple versus Optimal Mechanisms, Revisited

SPEAKER **Dr Yaonan Jin**

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TIME 2:00 PM - 3:00 PM
VENUE CS Seminar Room, Y6405, 6th Floor, Yellow Zone, Yeung Kin Man Academic Building, City University of Hong Kong, 83 Tat Chee Avenue, Kowloon Tong

ABSTRACT

A large proportion of the Bayesian mechanism design literature is restricted to the family of regular distributions or the family of monotone hazard rate (MHR) distributions, which overshadows this beautiful and well-developed theory. We (re-)introduce two generalizations, the family of quasi-regular distributions and the family of quasi-MHR distributions. All four families together form a hierarchy. The significance of our new families is manifold. First, their defining conditions are immediate relaxations of the regularity/MHR conditions (i.e., monotonicity of the virtual value functions and/or the hazard rate functions), which reflect economic intuition. Second, they satisfy natural mathematical properties (about order statistics) that are violated by both original families. Third but foremost, numerous results established before for regular/MHR distributions now can be generalized, with or even without quantitative losses.

BIOGRAPHY

Yaonan Jin is a full-time researcher at the Huawei TCS Lab (lead by Pinyan Lu). His research interests encompass Theoretical Computer Science, with an emphasis on Algorithmic Economics. Before joining Huawei, he obtained his PhD from Columbia University in 2023 (advised by Xi Chen and Rocco Servedio). Before that, he obtained his MPhil from Hong Kong University of Science and Technology in 2019 (advised by Qi Qi) and his BEng from Shanghai Jiao Tong University in 2017.

All are welcome!

In case of questions, please contact Prof Minming Li at minming.li@cityu.edu.hk, or visit the CS Departmental Seminar Web at https://www.cs.cityu.edu.hk/events/cs-seminars/recent-cs-colloquiums.