Seminar Announcement

Speaker: Dr. Sanjukta Roy, Pennsylvania State University.

Date & Time: Thursday, June 1, 2023, 3:00 PM

Title: Optimality and Starategyproofness in Voting

Abstract:

Social Choice or Societal Decision Making is concerned with how to aggregate individual opinions or interests. This is the common goal of a wide variety of problems including political elections, evaluation processes for job applicants or products, and recommendation systems in marketing. Two central challenges that must be taken into account from the perspective of a computer scientist are: (1) How time-efficient is it to find a good decision? (2) Is it possible to manipulate the decision?

I will discuss these two questions in the context of voting theory, namely, we will discuss The Committee Selection problem and the Gerrymandering problem. Towards this, we will solve a directed cut problem, a variant of a longest path problem, and use a polynomial method to solve a problem related to graph partitioning.

The talk is based on multiple papers co-authored with Jiehua Chen, Sushmita Gupta, Pallavi Jain, Fahad Panolan, Saket Saurabh, and Meirav Zehavi.

(The speaker is a postdoctoral fellow at the College of Information Sciences and Technology of the Pennsylvania State University. She holds a PhD in theoretical computer science from the Institute of Mathematical Sciences, Chennai.)