

abstract

Computer Science/Discrete Mathematics Seminar I
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

In this talk we will discuss information complexity -- a measure of the amount of information Alice and Bob need to exchange to solve a problem over distributed inputs. We will present an information-theoretically optimal protocol for computing the AND of two bits distributed between Alice and Bob. We prove that the information complexity of AND is ~ 1.4923 bits. We use the optimal protocol and its properties to obtain tight bounds for the Disjointness problem, showing that the randomized communication complexity of Disjointness on n bits is $\sim 0.4827n \pm o(n)$.

Based on joint work with Ankit Gard, Denis Pankratov, and Omri Weinstein