

Computer Science/Discrete Mathematics Seminar I

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Information Complexity and Exact Communication Bounds

Series: Computer Science/Discrete Mathematics

Mark Braverman

Princeton University

Date & Time: Mon, 12/03/2012 - 11:15 - 12:15

Location: S-101

Video Link:

<http://video.ias.edu/1213/csdm/MarkBraverman-1203>

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

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Tue, 09/04/2012 - 14:31

Mon, 11/26/2012 - 19:22

terms:

- [CSDM Seminars](#)