מכון ויצמן למדע

THE WEIZMANN INSTITUTE OF SCIENCE

FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Geometric Functional Analysis and Probability Seminar

Room 261 ,Ziskind Building
on Thursday, Jun 11, 2015
at 11:05

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Metric distortion between random finite subsets of the interval

Abstract:

Consider a random finite metric space X given by sampling n points in the unit interval uniformly, and a deterministic finite metric space U given by placing n points in the unit interval at uniform distance. With high probability, X will contain some pairs of points at distance roughly $1/n^2$, so any bijection from X to U must distort distances by a factor of roughly n. However, with high probability, two of these random spaces, X_1 and X_2, have a bijection which distorts distances by a factor of only about $n^{2/3}$. The exponent of $2/3$ is optimal.

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