

abstract

COMPUTER SCIENCE/DISCRETE MATH I

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

Traditional algorithm design is being challenged by the remarkable technological advances in data acquisition of recent years. Today's algorithms must often cope with data that is massive, noisy, uncertain, high-dimensional, nonuniformly priced, streaming, or of low entropy.

As data is fast becoming a major conceptual driver of algorithm design, a new, data-centric approach has been taken, giving rise to sublinear algorithms, low entropy data structures, self-improving algorithms, and online data reconstruction. I will discuss these developments on a few concrete examples.