Fast, cheap, but in control: sublinear-time algorithms for approximate computations

Dana Ron, Tel Aviv University

Abstract

When we refer to efficient algorithms, we usually mean polynomial-time algorithms. However, there are many scenarios in which the input is very large, and we seek even more efficient algorithms whose running time is sublinear in the size of the input. Such algorithms do not even read the entire input, but rather sample random parts of the input and are required to output approximately good answers with high success probability. In this talk I will try to give a flavor of research in the area of sublinear-time algorithms.