

Spring 2016 Seminar Series

ELEGANCE AND SIMPLICITY IN RANDOMIZED ALGORITHMS

FRIDAY MARCH 4, 2016

10:00 AM – HEC 118

Randomized algorithms are often admired for their simplicity of implementation, but their reputation as being difficult to analyze tends to hamper their visibility in many classes and also therefore ultimately in practice. In this talk, I'll highlight some of my recent work that aims to make fundamental randomized algorithms more accessible. I'll discuss two generic methods we have developed that can be used to analyze dozens of common randomized algorithms and data structures with absolutely minimal prerequisite knowledge from probability theory. I'll also discuss an elegant new randomized algorithm for finding approximate quantiles (e.g., the 25th percentile element from a massive data stream) that is so simple that its implementation fits on a "post-it" note.

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Dr. Brian C. Dean received his undergraduate and graduate degrees in computer science from MIT, and is currently an associate professor in the Clemson University School of Computing. The recipient of an NSF CAREER award and numerous teaching awards, Dr. Dean's interests span three main areas: fundamental theoretical research across a broad range of topics in algorithmic computer science, applied interdisciplinary work focusing particularly on algorithmic aspects of problems in biomedical informatics, and outreach and education. He currently directs the USA Computing Olympiad, which motivates and trains thousands of top high-school students in the USA and worldwide in the study of computational problem solving.

Hosted by: Dr. Ali Orooji

