Convex Optimization and Dynamic Data Structure

Yin Tat Lee
University of Washington, Seattle, WA, USA
http://yintat.com
yintat@uw.edu

Abstract

In the last three years, there are many breakthroughs in optimization such as nearly quadratic time algorithms for bipartite matching, linear programming algorithms that are as fast as $Ax = b$. All of these algorithms are based on a careful combination of optimization techniques and dynamic data structures. In this talk, we will explain the framework underlying all the recent breakthroughs.

Joint work with Jan van den Brand, Michael B. Cohen, Sally Dong, Haotian Jiang, Tarun Kathuria, Danupon Nanongkai, Swati Padmanabhan, Richard Peng, Thatchaphol Saranurak, Aaron Sidford, Zhao Song, Di Wang, Sam Chiu-wai Wong, Guanghao Ye, Qiuyi Zhang.

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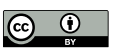

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