Distributed Optimization And Approximation: How Difficult Can It Be?

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──── **Abstract** ────

We know that exact distributed algorithms for optimization problems cannot be fast. To overcome these barriers, very efficient approximation algorithms have been designed in various distributed settings. But for very small approximation factors, a mystery remains: Why do we not have fast distributed algorithms for very small approximations factors in bandwidth restricted settings?

This talk will overview the state-of-the-art of distributed optimization and approximation algorithms and discuss the major challenges in determining the complexity of small approximations.

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