

Statistical Techniques for Big Data Optimization

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In modern big-data statistical applications, one may encounter large optimization problems that traditional gradient-based numerical methods are unable to handle. A modern solution to this problem is to compute the gradient approximately using a random sample. This approach reduces the computational cost, but introduces statistical variance. In this talk, I will discuss some new statistical variance reduction techniques for such problems, which allow us to design some of the most effective optimization methods for big data.