Optimization Program Summer School
August 8-12, 2016

SPEAKER TITLES/ABSTRACTS

Eric Chi
North Carolina State University

"Optimization for Statistics and Machine Learning”

The course will cover optimization methods that play a key role in machine learning and modern statistical estimation. The course is going to be a mix of practice (i.e. programming) and basic theory (e.g. KKT conditions, convergence of iterative methods, rates of convergence, etc…). The course will cover topics drawn from i) convex optimization (linear programming, quadratic programming, semidefinite programming, algorithms for penalized regression for recovering structured sparsity), ii) proximal methods (proximal gradient methods, FISTA, FASTA, and alternating direction method of multipliers), and iii) stochastic strategies: stochastic gradient descent and stochastic quasi-Newton's method).