EPSTEIN INSTITUTE SEMINAR ▪ ISE 651

Constrained Optimization in the Presence of Noise

ABSTRACT - Modern nonlinear optimization methods have seen great success in a wide range of application areas. However, little is known about their behavior when function and constraint evaluations contain errors (or noise). This talk outlines a research agenda to redesign classical methods (and their software implementation) so that they are efficient and accurate in the presence of errors. The guiding principle is provided by some fundamental theoretical results that are presented for a classical method based on sequential quadratic programming. One of the main applications of this work lies in the area of derivative-free optimization.

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SPEAKER BIO – Jorge Nocedal is a Professor in the Department of Industrial Engineering and Management Sciences at Northwestern University. His research is in optimization, both deterministic and stochastic, and with emphasis on large-scale problems. He served as editor-in-chief of the SIAM Journal on Optimization, is a SIAM Fellow, was awarded the 2012 George B. Dantzig Prize as well as the 2017 Von Neumann Theory Prize, for contributions to theory and algorithms of nonlinear optimization. He is a member of the US National Academy of Engineering.

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TUESDAY, OCTOBER 19, 2021
3:30 PM – 4:50 PM
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