Industrial and Systems Engineering Seminar

Robust Sensitivity Analysis

Wednesday, May 3

3:15 PM – Refreshments before the Seminar

3:30 PM – Graduate Seminar

Mechanical Engineering Room 4125 A & B

Professor Samuel Burer

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We propose a framework for sensitivity analysis of linear programs (LPs) in minimization form, allowing for simultaneous perturbations in the objective coefficients and right-hand sides, where the perturbations are modeled in a compact, convex uncertainty set. This framework unifies and extends multiple approaches for LP sensitivity analysis in the literature and has close ties to worst-case linear optimization and two-stage adaptive optimization. We validate our approach computationally on several examples from---and inspired by---the literature. If time permits, we will also discuss an extension to adjustable robust linear programming.

BIO: Sam Burer is Professor, Tippie Research Fellow, and Graduate Business Analytics Director in the Department of Management Sciences at the University of Iowa. He received his Ph.D. from the Georgia Institute of Technology, and his professional interests include analytics, operations research, management sciences, and optimization. His research has been supported by grants from the National Science Foundation, and he serves on the editorial board of Operations Research, SIAM Journal on Optimization, Mathematics of Operations Research, and Optima. He also serves as a Member of the Board of Directors of the INFORMS Computing Society and has served as a Council Member of the Mathematical Optimization Society.