How To Be More Uncertain: Statistical Thinking in the Age of Big Data

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Abstract
Humans love certainty, intuitive explanations, and discovering patterns. Yet our world is complicated and filled with randomness. Statistical thinking provides us with practical tools for making sense of an uncertain world. It can sometimes lead us to make surprising conclusions from data. And it also teaches us humility in the face of uncertainty. In this micro-seminar, we will see examples of how data-driven decision making -- a cornerstone of the era of "Big Data" that we live in -- can be quite difficult to get right and how thinking like a statistician can lead to powerful insights. Furthermore, we will learn how to better calibrate our own confidence level in the face of the unknown so that we can be a bit more precise about what we don't know.

Join statistics professor Jacob Bien (Data Sciences and Operations) in a micro-seminar in which uncertainty will be given its due. Or at least that's the best estimate of what will happen.

Faculty Biography
Jacob Bien is an associate professor in the Department of Data Sciences and Operations in the Marshall School of Business at the University of Southern California (USC). He received a B.S. in physics and a Ph.D. in statistics from Stanford University. Before joining USC, he was an assistant professor at Cornell University in the Department of Biological Statistics and Computational Biology and in the Department of Statistical Science. Dr. Bien's research focuses on statistical machine learning and in particular the development of novel methods that balance flexibility and interpretability for analyzing complex data. He combines ideas from convex optimization and statistics to develop methods that are of direct use to scientists and others with large datasets. His work is supported by the National Science Foundation (CAREER award), the National Institutes of Health, and the Simons Foundation. He serves as an associate editor of Biometrika and the Journal of Computational and Graphical Statistics.