Recent Advances in Statistical Inference and Computational Methodologies
and
Single Observation Adaptive Search for Stochastic Optimization

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Time: 10:00am – 12:00nn
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Abstract

Some recent work in statistical inference and computational methodologies will be presented, with applications. Recursive integration methods will be discussed, which provide an efficient way of evaluating high-dimensional integral expressions. Discussions will also be provided of recent advances in win-probabilities, and latent score methodologies for modelling financial credit ratings.

Optimizing the performance of a stochastic systems such as online learning systems and discrete event simulations is a challenging task since few regularity properties can reliably be assumed and the performances are contaminated with noise. A framework is proposed for adaptive search algorithms that executes a single observation of the performance for each design point encountered. Experiments are discussed that offer empirical support for this paradigm of single observation stochastic optimization leading to better designs than a traditional approach using multiple replications.

About the Speaker

Professor Anthony Hayter has an M.A. in mathematics from Cambridge University, and a Ph.D. in statistics from Cornell University. He is the author of the textbook “Probability and Statistics for Engineers and Scientists,” the 4th edition of which was published in 2012. Between 2006 and 2010 Professor Hayter was the Chair of the Department of Statistics and Operations Technology at the University of Denver. He was awarded a Fulbright Foreign Scholarship Award in 2011-2012 and a Fulbright Specialist Grant in 2014 to assist the government, universities, and businesses in Thailand with surveys, data analysis, curriculum development and research projects.

Professor Seksan Kiatsupaibul has a Ph.D. in optimization from the University of Michigan. He is the author of the textbook “Operations Research with Statistical Applications”. He has been selected as the representative from Thailand for the 2018 Educational Ambassador Program of the American Statistical Association (ASA). His current research interests lie at the intersection of optimization and statistics.

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