ICUB Talks: Exact Sciences Section

Prof. Nicoleta Șerban
(Georgia Institute of Technology, USA)

Efficient And Distributed Computational Methods For Complex Systems

Many statistical inference problems for large-scale complex systems involve using analytical tools, such as statistics, mathematical optimization and machine learning algorithms. Due to the explosion in size and complexity of modern datasets, traditional ways of modeling on a single computing node are no longer scalable. In this presentation, I will introduce several computational efficient methods that model complex systems in different settings. The methodologies span from solving batches of optimization problems in the context of uncertainty quantification, accounting for spatial correlation in the decision making and clustering a large number of observations that are spatially correlated using distributed computing. The motivating applications are primarily in the area of healthcare delivery and health policy.

Short bio: is Professor in the H. Milton Stewart School of Industrial and Systems Engineering at the Georgia Institute of Technology. Dr. Șerban's education and research trajectory makes her unique in the pursuit of data-driven discovery endeavors. B.Sc. at University of Bucharest, Ph.D. in Statistics at Carnegie Mellon University, she has published more than 55 journal articles, and a collaborative book titled *Understanding and Managing the Complexity of Healthcare* (MIT Press). She is the Editor for physical sciences, engineering, and the environment for the *Annals of Applied Statistics. She has reviewed for multiple funding agencies and she has served in multiple workshops and meetings organized by the National Academy of Engineering and National Academy of Medicine.*

Wednesday, December 5th 2018 at 12:00

Universitatea din Bucureşti,
Amfiteatrul 0 (Spiru Haret)

Facultatea de Matematică şi Informatică
Str. Academiei nr.14, Bucuresti