



Statistical Sciences
UNIVERSITY OF TORONTO

SEMINAR

February 25, 2016 at 1:30pm

Refreshments will be provided at 1:15pm

Sidney Smith Hall, Room 2102

Speaker: Yaoliang Yu, Carnegie Mellon University

Host: Jamie Stafford

The Computational, Statistical, and Practical Aspects of Machine Learning

The big data revolution has profoundly changed, among many other things, how we perceive business, research, and application. However, in order to fully realize the potential of big data, certain computational and statistical challenges need to be addressed. In this talk, I will present my research in facilitating the deployment of machine learning methodologies and algorithms in big data applications. I will first present robust methods that are capable of accounting for uncertain or abnormal observations. Then I will present a generic regularization scheme that automatically extracts compact and informative representations from heterogeneous, multi-modal, multi-array, time-series, and structured data. Next, I will discuss two gradient algorithms that are computationally very efficient for our regularization scheme, and I will mention their convergence properties, computational requirements, and parallelizations. Lastly, I conclude my talk by sharing some future directions that I am and will be pursuing.

Bio: Yaoliang Yu is currently a research scientist affiliated with the center for machine learning and health, and the machine learning department of Carnegie Mellon University. His research is at the intersection of optimization, machine learning, and statistics. His main research interests include robust statistics, representation learning, kernel methods, collaborative filtering, topic models, convex and nonconvex optimization, distributed system, and applications in computer vision, genetics, healthcare, and multimedia. He obtained his PhD (under Dale Schuurmans and Csaba Szepesvari) in computing science from University of

Alberta (Canada, 2013), and he received the PhD Dissertation Award from the Canadian Artificial Intelligence Association in 2015.