
STATISTICS SEMINAR

UW-Department of Statistics

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Abstract: *New data collection and storage technologies have given rise to a new field of streaming data analytics, including real-time statistical methodology for online data analyses. Streaming data refers to high-throughput recordings with large volumes of observations gathered sequentially and perpetually over time. Such data collection scheme is pervasive not only in biomedical sciences such as mobile health, but also in other fields such as IT, finance, service and operations etc. This talk primarily concerns the development of a real-time statistical estimation and inference method for regression analysis, with a particular objective of addressing challenges in streaming data storage and computational efficiency. Termed as “renewable estimation”, this method enjoys strong theoretical guarantees, including asymptotic consistency and statistical efficiency, as well as fast computational speed. The key technical novelty pertains to the fact that the proposed method uses current data and summary statistics of historical data. The proposed algorithm will be demonstrated in generalized linear models (GLM) for cross-sectional data. I will discuss both conceptual understanding and theoretical guarantees of the method and illustrate its performance via numerical examples. This is joint work with my supervisor Professor Peter Song.*

TITLE:

**Renewable
Estimation and
Incremental Inference
in Streaming Data
Analysis**

Speaker:

Lan Luo

PhD Student
University of Michigan
– Ann Arbor

Time & Place:

Wednesday,
February 5, 2020

4pm,

Room 133 SMI

Cookies & Coffee @

3:30, Rm 1210 MSC

