

# Lan Luo

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## Education

2016 - Present	UNIVERSITY OF MICHIGAN Ph.D. Biostatistics (Advisor: Peter X.K. Song)	Ann Arbor, MI
2014 - 2016	UNIVERSITY OF MICHIGAN M.S. Biostatistics	Ann Arbor, MI
2009 - 2013	HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY B.S. Biology	Wuhan, China

## Research Interests

Methodology: online learning, streaming data analytics, change-point detection, correlated data analysis, optimization, high-dimensional regression

Applications: mobile health, human genetics, randomized controlled trial

## Experience

### Research Experience

2016 - Present	<b>Doctoral Dissertation Research, <i>Streaming Data Analytics and Real-time Regression Analysis</i></b> Department of Biostatistics, University of Michigan	Ann Arbor, MI
	<ul style="list-style-type: none"><li>• Developed a new methodological framework of renewable estimation and incremental inference in generalized linear models, including an R package <b>RenewGLM</b></li><li>• Developed a real-time regression analysis method for streaming cluster- or longitudinal-correlated data streams with possible abnormal data batches in quadratic inference functions (R package <b>RenewQIF</b>).</li><li>• Developing real-time regression with dynamic nonhomogeneous parameters in the context of state space models</li></ul>	
2017	<b>Data Analyst, <i>Mobile Health Data Analysis</i></b> Department of Biostatistics, University of Michigan	Ann Arbor, MI
	<ul style="list-style-type: none"><li>• Pre-processing and modeling of high frequency basal body temperature measurements via Hidden Markov Model (HMM), as well as predicting time of ovulation with the incorporation of personal biorhythm information</li></ul>	



### Manuscripts In Revision

5. **Luo, L.** and Song, P.X.K. (2020+). Real-time regression analysis of streaming clustered data with possible abnormal data batches. *Journal of the American Statistical Association (Theory & Methods)* (invited revision).

### Manuscripts In Preparation

6. **Luo, L.** and Song, P.X.K. Real-time regression analysis of dynamic nonhomogeneous streaming data in linear state space mixed model.
7. **Luo, L.** and Song, P.X.K. Understanding dynamics of  $p$ -values in incremental inference with streaming data.

## Honors and Awards

2019	Excellence in Research Honorable Mention
2019	Rackham Predoctoral Fellowship for Academic Year 2019-2020
2019	The International Biometric Society Eastern North American Region's (ENAR) Distinguished Student Paper Award
2018	The Michigan Institute for Data Science (MIDAS) Annual Symposium Poster Award of Most Innovative Use of Data
2015	Outstanding Academic Performance First-Year Master's Program
2015	Certificate in Public Health Genetics (CPHG) Award
2013	HUST Excellent Graduate
2012	HUST Qiming Academy Outstanding Student Award & First Prize in Accomplishments
2011	China National Scholarship

## Funding

2018	Rackham Travel Grants for ENAR & JSM
2015	Funding of genetics-related internships by CPHG

## Software

R packages: `glmADMM`, `RenewGLM`, `RenewQIF` (available on <https://github.com/luolsph>)

## Technical Skills

R, Rcpp, SAS, Python, SQL, Matlab, TeX

## Hobbies

Yoga, hiking, Pipa (Chinese instrument), painting