Lucy L. Gao
Ph.D. Candidate in Biostatistics

***email*: LUCYGAO at UW dot EDU** ***website*: LUCYLGAO dot COM**

Education

SEPTEMBER 2015 - JUNE 2020 (EXPECTED)

University of Washington, Seattle WA - *Ph.D. Biostatistics*

- *Dissertation*: Hypothesis Testing with Multiple Data Views
- *Committee:* Marina Meila, Ali Shojaie, Cole Trapnell (Graduate School Representative), and Daniela Witten (Chair)

SEPTEMBER 2011 - JUNE 2015

University of Victoria, Victoria BC - *B.Sc. Honours Mathematics and Statistics*

Experience

JULY 2018 - SEPTEMBER 2018

LinkedIn Co, Sunnyvale CA - *Data Scientist Intern*

- Developed new tools for experiment design and hypothesis testing which increase the sensitivity of tests run in the in-house experimentation platform.

Publications

Statistical Methodology

Published or Accepted:

1. **Gao, L. L.**, Bien, J., & Witten, D. (2019) Are clusterings of multiple data views independent?. To appear in Biostatistics, and available at https://arxiv.org/abs/1901.03905. **[Won a 2019 ASA Biometrics Section Travel Award.]**
2. **Gao, L. L.**, & Zhou, J. (2017). D-optimal designs based on the second-order least squares estimator. *Statistical Papers*, 58(1), 77-94.
3. **Gao, L. L.**, & Zhou, J. (2014). New optimal design criteria for regression models with asymmetric errors. *Journal of Statistical Planning and Inference*, 149, 140-151. **[Selected as one of the finalists in the SSC Statistics on Reels video competition.]**

Submitted Preprints:

1. Liu, P., **Gao, L.L.** and Zhou, J. (2019+) R-optimal designs for multi-response regression models with multi-factors, submitted to *Communications in Statistics - Theory and Methods.* Preprint available at http://arxiv.org/abs/1910.02539..
2. **Gao, L.L.** and Zhou, J. (2019+) Minimax D-optimal designs for multivariate regression models with multi-factors, submitted to *Journal of Statistical Planning and Inference.* Preprint available at https://arxiv.org/abs/1910.00745.

3. **Gao, L.L.,** Witten, D., and Bien, J. (2019+) Testing for association in multi-view network data, submitted to *Journal of Computational and Graphical Statistics*. Preprint available at https://arxiv.org/abs/1909.11640.

Statistical Applications

1. Hsu, E. K., Shaffer, M. L., **Gao, L.**, Sonnenday, C., Volk, M. L., Bucuvalas, J., & Lai, J. C. (2017). Analysis of liver offers to pediatric candidates on the transplant wait list. *Gastroenterology*, 153(4), 988-995. **[Featured in an editorial in *Gastroenterology*.]**

Presentations

Invited Presentations

1. (September 2018) "Are clusterings of multiple data views independent?" for the University of Victoria Department of Statistics Seminar Series, in Victoria, B.C., Canada.
2. (July 2018) "Are clusterings of multiple data views independent?" at the 2018 Joint Statistical Meetings, in Vancouver, B.C., Canada.

Contributed Presentations

1. (August 2019) "Are clusterings of multiple data views independent?" at the 2019 Joint Statistical Meetings, in Denver, Colorado.
2. (June 2019) "Testing for association in multi-view network data" at the 2019 WNAR Annual Meeting of IBC (International Biometric Conferences), in Portland, Oregon.
3. (December 2017) "Are clusterings of multiple data views independent?" at AT&T Graduate Student Symposium, in New York City, New York.
4. (September 2016) "Distributionally robust multinomial regression" at BIRS Robustness Theory and Methodology: Recent Advances and Future Directions workshop, in Banff, A.B., Canada.
5. (August 2015) "D-optimal designs based on the second-order least squares estimator" at the 2015 Joint Statistical Meetings, in Seattle, Washington.
6. (May 2014) "New optimal design criteria for regression models with asymmetric errors" at the Statistical Society of Canada (SSC) Student Conference, in Toronto, Ontario.

Awards and Scholarships

- (2019) **ASA Biometrics Section Travel Award**, valued at *$1,000 USD*
- (2016-2019) **NSERC PGSD-3**, a graduate scholarship from the Natural Sciences and Engineering Council of Canada, valued at *$21,000 CAD/year for 3 years*
- (2015) **CIHR Summer Studentship Award**, an undergraduate research award from the Canadian Institutes of Health Research, valued at *$6,250 CAD*
- (2014) **NSERC Undergraduate Student Research Award**, valued at *$5,625 CAD*
- (2013) **NSERC Undergraduate Student Research Award**, valued at *$5,625 CAD*

Teaching Experience

MARCH 2019, University of Washington, Seattle

Guest Lecturer for STAT 435: Introduction to Statistical Machine Learning

- STAT 435 is a class targeted at undergraduate students majoring in statistics.
- Gave a guest lecture on unsupervised learning methods.

MARCH 2019, University of Washington, Seattle

Guest Lecturer for STAT 546: Machine Learning for Biomedical and Public Health

- STAT 546 is a class targeted at graduate students in the School of Public Health.
- Gave a guest lecture on unsupervised learning methods.

June 2018, University of Washington, Seattle

Guest Lecturer for BIOST 311: Regression Methods in the Health Sciences

- BIOST 311 is a class targeted at undergraduate students in the School of Public Health.
- Gave a guest lecture introducing regression methods for correlated data at a high level.

April 2018-June 2018, University of Washington, Seattle

Teaching Assistant for BIOST 310: Biostatistics in the Health Sciences

- BIOST 310 is a class targeted at undergraduate students in the School of Public Health.
- Taught discussion/tutorial sections once a week, held office hours, and graded assignments.
- Developed material for discussion/tutorial sections.

July 2017, University of Washington, Seattle

Teaching Assistant for the UW Summer Institutes in Big Data

- Provided teaching support for the 2-day unsupervised learning module.

Service

Reviewer for *Biostatistics* and *Journal of Computational and Graphical Statistics*

(2017-2018) UW Peer Mentoring Program Member

(2017-2018) Co-organizer for UW Biostatistics working groups (Witten Lab and SLAB Lab)

Software

multiviewtest, R Package on CRAN