Tingting Zhou

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Research Interests Causal inference, Missing Data, Bayesian Statistics, Longitudinal Data Analysis, Nonparametric Statistics

Education

University of Michigan, Ann Arbor, MI — September 2012 to September 2018

Ph.D., Biostatistics, August 29 2018

- Thesis Topic: *Bayesian Robust Methods for Causal Inference using Penalized Splines*
- Brief Research Synopsis: Develop new robust methods for estimating causal effects from observational studies and address two closely related topics on causal inference–the problem of limited overlap and variable selection for propensity score model.
- Advisors: Roderick J.A. Little, Ph.D and Michael R. Elliott, Ph.D
- *GPA: 3.91/4.00*

Johns Hopkins University, Baltimore, MD — September 2005 to May 2012

M.S., Applied Mathematics and Statistics, May 2012

B.A., Economics, Applied Mathematics and Statistics (Double Major), May 2009

- *GPA: 3.90/4.00*
- *Achievement Award in Applied Mathematics and Statistics*
- *Phi Beta Kappa*

Teaching Experience

Graduate Student Teaching Assistant — September 2017 to December 2017
Department of Biostatistics,
University of Michigan
Provided teaching support for a statistical computing course (Biostats 615): grade programming assignments and exams, hold office hours.
Supervisor: Hyun Min Kang, Ph.D

Research Experience

Graduate Student Research Assistant — January 2018 to September 2018
Department of Biostatistics,
University of Michigan
Working on my dissertation research and related papers
Supervisors: Roderick J.A. Little, Ph.D and Michael Elliott, Ph.D

Graduate Student Research Consultant — September 2015 to August 2017
Department of Neurology,
University of Michigan
Provided statistical support for the Department of Neurology: develop statistical analysis plans and experimental designs, communicate statistical models and findings to scientists.
Supervisor: Roderick J.A. Little, Ph.D

Graduate Student Research Assistant June 2015 to August 2015
Institute for Social Research,
University of Michigan
Involved in a project on data confidentiality and disclosure issues, specifically, looking at statistical approaches that protect confidentiality on public data, while preserving integrity of the data.
Supervisor: Roderick J.A. Little, Ph.D

Graduate Student Research Assistant September 2012 to May 2015
Center for Statistical Genetics,
University of Michigan
Analyzed genome-wide association studies testing for genetic associations in age related macular degeneration (AMD); Performed simulation studies on designs of genome-wide association studies; Evaluated causal inference techniques for censored data, specifically, matching and stratification techniques to estimate causal effects from observational studies.
Supervisors: Goncalo Abecasis, Ph.D, Douglas E. Schaubel, Ph.D

Research Assistant September 2010 to May 2012
Department of Emergency, Department of Radiology, Center on Aging and Health, Johns Hopkins School of Medicine
Conducted statistical analysis. Recruited patients into a clinical research study for head trauma in the emergency room. Collected MRI data to investigate new imaging techniques for brain tumor.

Short Term Consultant June 2009 to March 2010
The World Bank Group
Worked on a project evaluating the impact of micro-finance program on poverty in Pakistan. Conducted statistical analysis. Prepared reports and presentations for project managers.

Submitted Journal Publications

1. **Zhou, T.**, Elliott, M.R., and Little, R.J.A. "Penalized Spline of Propensity Methods for Treatment Comparison." *Journal of the American Statistical Association*, in production, August 26, 2018.

Refereed Journal Publications

1. Murdock, B.J., **Zhou, T.**, Kashlan, S.R., Little, R.J.A., Goutman, S.A., Feldman, E.L. "Correlation of Peripheral Immunity With Rapid Amyotrophic Lateral Sclerosis Progression." *Journal of the American Medical Association Neurology*, September 25, 2017.

2. Little, R.J.A. and **Zhou, T.** "God, Devil, and Guru in the Land of Multiple Imputation Discussion." *Statistica Sinica*, October 1, 2017.

3. Korley, F.K., Morton, M.J., Hill, P.M., Mundangepfupfu, T., **Zhou, T.**, Mohareb, A.M., Rothman, R.E. "Agreement between Routine Emergency Department Care and Clinical Decision Support Recommended Care in Patients Evaluated for Mild Traumatic Brain Injury." *The Society for Academic Emergency Medicine*, 20(5):463-469, 2013.

4. Wang, S.L., Tryggestad, E., **Zhou, T.** , Armour, M., Wen, Z.B., Fu, D.X., Ford, E., van Zijl, P.C.M., Zhou, J.Y. "Assessment of MRI Parameters as Imaging Biomarkers for Radiation Necrosis in the Rat Brain." *International Journal of Radiation Oncology Biology Physics*, 83:431-436, 2012.

5. Zhou, J.Y, Tryggestad, E., Wen,Z.B, Lal, B., **Zhou, T.**, Grossman, R., Yan, K., Wang, S., Fu, D.X., Blakeley, J., Ford, E., Tyler, B., Laterra, J., and van Zijl, P.C.M. "Differentiation between Glioma and Radiation Necrosis using Molecular Magnetic Resonance Imaging of Endogenous Proteins and Peptides." *Nature Medicine,* 17:130-134, 2011.

Current Projects and Papers in Preparation

1. Addressing Disparities in the Assignment Propensity Distributions for Treatment Comparisons from Observational Studies
2. Variable Selection in Causal Inference

Awards

- Rackham Regents' Fellowship 2012-2013, 2014-2015
- Rackham Travel Grants 2016, 2017, 2018

Presentations

Statistical Meetings

- 2018 Joint Statistical Meetings, Vancouver, Canada. July 2018
- 12th International Conference on Health Policy Statistics, Charleston, SC. Invited Talk January 2018
- Atlantic Causal Inference Conference, Chapel Hill, NC May 2017
- Biometric Society (ENAR) Regional Meeting, Austin, TX March 2016

University of Michigan

- Michigan Student Symposium for Interdisciplinary Statistical Sciences (selected for oral presentation) March 2017
- Michigan Student Symposium for Interdisciplinary Statistical Sciences March 2016

Workshops

- Big Data, Predictive Analytics and Deep Learning with Apache Spark, School of Information, University of Michigan May 1-3, 2018

Computing Skills

C++, R, Rcpp, Python

References

Roderick J.A. Little
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Michael R. Elliott
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Department of Biostatistics, Survey Methodology Program
University of Michigan
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E-mail: mrelliot@umich.edu

Goncalo Abecasis
Felix E. Moore Collegiate Professor of Biostatistics
Department of Biostatistics
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E-mail: goncalo@umich.edu