

Zehang Richard Li

Contact Information

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Education

- University of Washington** 2013 - Present
Ph.D. Candidate in Statistics, Machine Learning and Big Data PhD Track
Dissertation: Bayesian graphical models with limited data and external information
Advisor: Tyler H. McCormick
- The Chinese University of Hong Kong** 2009 - 2013
B.Sc. in Risk Management Science
Minor in Mathematics
- University of Washington**, visiting student Autumn 2012
University of California, Berkeley, visiting student Summer 2011

Publications

In preparation

- [1] **Zehang R Li** and Tyler H McCormick. An Expectation Conditional Maximization approach for Gaussian graphical models. *Submitted, arXiv:1709.06970*, 2017.
- [2] **Zehang R Li**, Tyler H McCormick, and Samuel J Clark. Bayesian latent Gaussian graphical models for mixed data with marginal prior information. *arXiv: 1711.00877*, 2017.
- [3] **Zehang R Li**, Jessica Godwin, Yuan Hsiao, Bryan Martin, Jon Wakefield, and Samuel J. Clark. Changes in the spatial distribution of the Under Five Mortality Rate: small-area analysis of 136 DHS Surveys in 33 Countries in Africa and Asia. *In preparation*, 2017.
- [4] Tsuyoshi Kuniyama, **Zehang R Li**, Tyler H McCormick, and Samuel J Clark. Bayesian factor models for probabilistic cause of death assessment with verbal autopsies. *In preparation*, 2017.
- [5] **Zehang R Li**, Tyler H McCormick, and Samuel J Clark. Verbal autopsy analysis using OpenVA. *In preparation*, 2017.

Peer reviewed

- [1] Tyler H McCormick, **Zehang R Li**, Clara Calvert, Amelia C Crampin, Kathleen Kahn, and Samuel J Clark. Probabilistic cause-of-death assignment using verbal autopsies. *Journal of the American Statistical Association*, 111(515):1036–1049, 2016.
- [2] Sylvia Blom, Georges Reniers, Judith Lieber, Kobus Herbst, Clara Calvert, Jacob Bor, Till Barnighausen, Basia Zaba, **Zehang R Li**, Samuel Clark, Alison Grant, Richard Lessells, Jeffrey Eaton, and Victoria Hosegood. Tuberculosis mortality and the male survival deficit in rural South Africa: an observational community cohort study. *PLOS ONE*, to appear.

- [3] Georges Reniers, Sylvia Blom, Clara Calvert, Alexandra Martin-Onraet, Abraham J Herbst, Jeffrey W Eaton, Jacob Bor, Emma Slaymaker, **Zehang R Li**, Samuel J Clark, et al. Trends in the burden of HIV mortality after roll-out of antiretroviral therapy in KwaZulu-Natal, South Africa: an observational community cohort study. *The lancet HIV*, 4(3):e113–e121, 2017.
- [4] Ngai Hang Chan, **Zehang R Li**, and Chun Yip Yau. Forecasting online auctions via self-exciting point processes. *Journal of Forecasting*, 33(7):501–514, 2014.

Working papers

- [1] **Zehang R Li**, Tyler H McCormick, and Samuel J Clark. InterVA4: An R package to analyze verbal autopsy data. *Center for Statistics and the Social Sciences Working Paper, No.146*, 2014.
- [2] Samuel J Clark, Tyler H McCormick, **Zehang R Li**, and Jon Wakefield. InSilicoVA: A method to automate cause of death assignment for verbal autopsy. *Center for Statistics and the Social Sciences Working Paper, No.133*, 2013.

Work in Progress

- “Bayesian variable and covariance selection with application to demand estimation.”
(Joint work with Matt Goldman and Matt Taddy)
- “Scalable and interpretable Bayesian models for large social network evolution.”
(Joint work with Tyler McCormick and Joshua Blumenstock)

Talks and Poster Presentations

Bayesian latent Gaussian graphical model

- Topic contributed talk, Joint Statistical Meetings, Vancouver 2018

ECM approach for estimating Gaussian graphical model

- Invited poster, Joint Statistical Meetings, Vancouver 2018

Probabilistic models for verbal autopsy analysis

- Poster, UW Data Science Networking, Seattle 2016
- Poster, Joint Statistical Meetings, Chicago 2016

Software for verbal autopsy analysis

- Invited, VA in CRVS Systems international meeting, Accra, Ghana 2017
- Invited, D4H VA Working Group meeting, Columbus, Ohio 2017
- Invited, WHO VA Working Group meeting, Geneva, Switzerland 2016

Discovering structures in large social network graphs

- Contributed talk, Joint Statistical Meetings, Chicago 2016
- Contributed talk, Joint Statistical Meetings, Seattle 2015

Forecasting online auctions via self-exciting point processes

- Poster, ISI Young Statisticians’ Meeting, Hong Kong 2013

Work Experience

- Consultant**, Vital Strategies, NY, United States Jun - Dec 2017
- Develop and improve *openVA* software with the 2016 WHO Standard VA Instrument.
 - Assist the integration of verbal autopsy pipeline into civil registration and vital statistics systems.
- Research Intern**, Microsoft Research, Redmond, WA, United States Jun - Sept 2016
- Develop machine learning and Bayesian graphical model procedures for learning competitions patterns among large numbers of notebook and tablet products.
 - Mentors: Matt Goldman and Matt Taddy
- Research Intern**, Census and Statistics Department Hong Kong SAR Jun - Aug 2012
- Design and build hedonic models for CPI calculations of used vehicles.

Teaching

- Instructor, STAT 394 Probability I (rating: 4.3/5) Summer 2017
- TA, STAT 435 Introduction to Statistical Machine Learning (rating: 4.7/5) Spring 2017
- TA, STAT 390 Statistical Methods in Engineering and Science (rating: 3.5/5) Winter 2017

Software

- R packages for verbal autopsy methods: InterVA4, InSilicoVA, Tariff, openVA
- R package for child mortality methods: SUMMER

Honors and Awards

- Student Paper Award, The Section on Bayesian Statistical Science of the ASA, JSM 2018
- Travel Award, UW Center for Statistics and the Social Sciences (CSSS) 2016
- Blalock Fellowships, UW Center for Statistics and the Social Sciences (CSSS) 2013
- Mathematical Contest in Modeling (MCM), *Meritorious Winner* 2012
- Dragon Crowd SCHIESSE International Exchange Scholarships 2012
- Faculty of Science Dean's List 2010
- Scholarship for Excellent Mainland Student (four years tuition fee and living expense) 2009 - 2013

Professional Involvement

- Moderator, Statistics in the Community (StatCom) 2016 - Present
- Member, New Lecturer Search Committee, Department of Statistics, UW 2017
- Department Statistical Consultant 2014
- Reviewer, *Statistica Sinica*, *Statistical Analysis and Data Mining*
- Professional Societies membership: American Statistical Association, Institute of Mathematical Statistics, International Chinese Statistical Association, International Society for Bayesian Analysis

Language and Skills

Programming: R, SAS, Stata, Matlab, Java, JavaScript, and L^AT_EX.

Visualization: Tableau, D3.

Languages: Mandarin (Native), Cantonese (Basic), English(Fluent), and Spanish (Elementary)

References

Tyler H. McCormick

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