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University of Miami, Miami, FL 33136

EDUCATION

University of Miami, Coral Gables, FL

August 2018

Ph.D in Biostatistics

Advisor: Hemant Ishwaran

Dissertation: Estimating Individual Treatment Effect in Observational Data Using Random Forest Methods

Dalian University of Technology, Dalian, China

July 2009

B.S. in Economics (Honor)

WORKING AND TEACHING EXPERIENCE

University of Miami

Miami, FL

Research Assistant Professor

February 2019 – present

- Division of Biostatistics, Department of Public Health Sciences, Miller School of Medicine

University of Miami

Miami, FL

Postdoctoral Research Associate

August 2018 – January 2019

- Supervisor: Hemant Ishwaran and Xi (Steven) Chen

University of Miami

Miami, FL

Instructor Teaching Assistant

Spring, 2017

- EPH705: Data Analysis for Advanced Epidemiology (Graduate Level)

MANUSCRIPTS AND PUBLICATIONS

1. **Lu M.** and Ishwaran H. (2021). Tree Variable Selection for Paired Case-Control Studies with Application to Microbiome Data. To appear in Datta, S. (Ed.), *Frontiers in Probability and the Statistical Sciences*. Springer.
2. **Lu M.** and Ishwaran H. (2021). Discussion of nonparametric variable importance assessment. *Biometrics*, 77: 23-27.
3. **Lu M.** (2020). Dynamic Modeling COVID-19 for Comparing Containment Strategies in a Pandemic Scenario. *Annals of Biostatistics & Biometric Application* 4:1-4.
4. Rice T.W., **Lu M.**, Ishwaran H., and Blackstone, E.H. (2019). Precision Surgical Therapy for Adenocarcinoma of the Esophagus and Esophagogastric Junction: A Machine Learning Causal Analysis. *Journal of Thoracic Oncology*, 14(12): 2164-2175
5. Ishwaran H. and **Lu M.** (2019). Random Survival Forests. *Wiley StatsRef: Statistics Reference Online*, 1-13.

6. Ishwaran H. and **Lu M.** (2019). Standard Errors and Confidence Intervals for Variable Importance in Random Forest Regression, Classification, and Survival. *Statistics in Medicine*, 38: 558-582.
7. **Lu M.**, Sadiq S., Feaster D.J. and Ishwaran H. (2018). Estimating Individual Treatment Effect in Observational Data Using Random Forest Methods. *Journal of Computational and Graphical Statistics*, 27: 209-219.
8. **Lu M.** and Ishwaran H. (2018). A Prediction-Based Alternative to P-values in Regression Models. *The Journal of Thoracic and Cardiovascular Surgery*, 155: 1130-1136.
9. Myers N.D., Ahn S., **Lu M.**, Celimli S., and Zopluoglu C. (2017). Reordering and Reflecting Factors for Simulation Studies with Exploratory Factor Analysis. *Structural Equation Modeling: A Multidisciplinary Journal*, 24: 112-128.
10. Ahn S., **Lu M.**, Lefevor G. T., Fedewa A.L., and Celimli S. (2015). Application of Meta-Analysis in Sport and Exercise Science. In Ntoumanis N. and Myers N.D. (Eds.), *An introduction to intermediate and advanced statistical analyses for sport and exercise scientists* (pp. 233-253). John Wiley & Sons.
11. **Lu M.** and Qin X. (2008). Segmentation in the Mortgage Market: A Study of Pre-adjustment of Variables in Cluster Analysis". *New Progress in Mathematics and Information Science* (pp. 339-355). Beijing University of Posts and Telecommunications Press. (ISBN978-7-5635-1508-0)

ABSTRACT

1. Feaster D.J., Ishwaran H., **Lu M.**, and Sadiq S., (2020). New Statistical Methods to Assess How Patients with Different Traits Respond to the Same Treatment. Patient-Centered Outcomes Research Institute

SOFTWARE

- **Lu M.** (2020). Dynamic Modeling COVID-19 for Your Own Region: An online prediction tool available at <https://minlu.shinyapps.io/killCOVID19/>.
- **Lu M.** (2017). metavcov: An R Package to Compute Variance-Covariance Matrix for Multivariate Meta-Analysis.
- Ahn S., Zopluoglu C., Celimli S., **Lu M.** and Myers N. (2016). RREFACT: An R Package for Reordering and/or Reflecting Factors for Simulation Studies with Exploratory Factor Analysis

AWARDS

- Student Travel Award, "Treatment Decision in Ischemic Cardiomyopathy: Causal Inference Using Random Survival Forests", the 12th International Conference on Health Policy Statistics (ICHPS), American Statistical Association, October 2017
- Travel Award, Biostatistics Workshop, Statistical Inference for Biomedical Big Data, University of Florida, Gainesville, April 2017
- Travel Award, the 5th Workshop on Biostatistics and Bioinformatics, Georgia State University, Atlanta, May 2017
- Awards in the 15th Annual High School Mathematical Modeling Contest (HiMCM), USA, 2012:
 - National Finalist (top 2%), Liaoning Province Shiyan High School, Advisor: Min Lu
 - Finalist (top 10%), Northeast Yucai Foreign Language School, Advisor: Min Lu

- Meritorious (top 21%), Northeast Yucai School, Advisor: Min Lu
- Meritorious (top 21%), Northeast Yucai Foreign Language School, Advisor: Min Lu
- Paper “If the National Health Status Responds by Elasticity” won the Meritorious Winner in Interdisciplinary Contest in Modeling (ICM), USA, 2008
- First Level University Scholarship, Dalian University of Technology, China, 2007 and 2008
- National Scholarship, Ministry of Education of China, 2007 and 2008

INVITED TALKS

- Treatment Decision in Ischemic Cardiomyopathy: Causal Inference Using Random Survival Forests, Iowa Institute for Oral Health Research, University of Iowa, Iowa City, Iowa, April 2018
- Personalized Treatment for Ischemic Cardiomyopathy: Incorporating Expert Knowledge in Random Forest Approaches Using Observational Survival Data with Non-Overlapping Groups, Department of Biostatistics, Indiana University School of Medicine, Indianapolis, Indiana, April 2018
- Treatment Decision in Ischemic Cardiomyopathy: Causal Inference Using Random Survival Forests, University of Missouri School of Medicine, Columbia, Missouri, March 2018
- Treatment Decision in Ischemic Cardiomyopathy: Causal Inference Using Random Survival Forests, Department of Epidemiology & Biostatistics, University of California, San Francisco, February 2018
- Treatment Decision in Ischemic Cardiomyopathy: Causal Inference Using Random Survival Forests, online talk at the Department of Population Health Science & Policy, Icahn School of Medicine at Mount Sinai Hospital, February 2018
- Treatment Decision in Ischemic Cardiomyopathy: Causal Inference Using Random Survival Forests, Epidemiology and Biostatistics Department, University of Arizona, Tucson, Arizona, January 2018
- Treatment Decision in Ischemic Cardiomyopathy: Causal Inference Using Random Survival Forests, Department of Statistics, Miami University, Ohio, November 2017
- Treatment Decision in Ischemic Cardiomyopathy: Causal Inference Using Random Survival Forests, Division of Biostatistics Seminar Series, University of Miami, October 2017
- Estimating Individual Treatment Effect in Observational Data Using Random Forest Methods, Prevention Science Methodology Group’s Spring 2017 virtual grand rounds (PSMG), April 2017

PRESENTATIONS

- Random Classification Forest for Paired Case-Control Studies with application for Microbiome Data Analysis, 2020 Joint Statistical Meetings, Philadelphia, Pennsylvania, August 2020
- Treatment Heterogeneity and Treatment Eligibility Estimations Using Random Forest Methods, 2018 Joint Statistical Meetings, Vancouver, Canada, August 2018
- Treatment Decision in Ischemic Cardiomyopathy: Causal Inference Using Random Survival Forests, the 12th International Conference on Health Policy Statistics, Charleston, South Carolina, January 2018
- Counterfactual Random Forest Individual Causal Inference, the 5th Workshop on Biostatistics and Bioinformatics, Georgia State University, Atlanta, May 2017

- Counterfactual Random Forest Individual Causal Inference, Fourth Research Intersections' Spring Graduate Student Symposium, University of Miami, April 2017
- Counterfactual Random Forest Individual Causal Inference, Biostatistics Workshop Statistical Inference for Biomedical Big Data, University of Florida, Gainesville, April 2017
- Counterfactual Random Forest Individual Causal Inference, Third Annual Research Presentation Distinguished Lecture Series, University of Miami, February 2017

PROFESSIONAL SERVICE

- Editorial Board
 - Associate Editor, Scientific Journal of Biology & Life Sciences
- Journal Referee
 - Statistics in Medicine
 - Journal of Machine Learning Research
 - The Journal of Thoracic and Cardiovascular Surgery
 - International Journal of Data Science and Analytics
 - Trials journal
 - Algorithms
 - The Journal of the Royal Statistical Society Series A (Statistics in Society)
 - Nature Computational Science
- Memberships
 - American Statistical Association (ASA)
 - Institute of Mathematical Statistics (IMS)
 - Eastern North American Region of the International Biometrics Society (ENAR))
 - International Chinese Statistical Association (ICSA)

REFERENCES

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