

# Jared D. Huling

The Ohio State University  
Department of Statistics

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## Experience

2017 - Present Assistant Professor, Department of Statistics, The Ohio State University

## Education

2012 - 2017 **Ph.D.**, Statistics, University of Wisconsin-Madison  
2008 - 2012 **B.S.** Actuarial Science, The Ohio State University  
*Summa cum Laude* with Honors

## Publications

- 1 **Jared D. Huling**, Menggang Yu, and A. James O'Malley. Instrumental variable based estimation under the semiparametric accelerated failure time model. To appear in *Biometrics*, 2018+
- 2 **Jared D. Huling**, Menggang Yu, and Maureen Smith. Fused comparative intervention scoring for heterogeneity of longitudinal intervention effects. To appear in the *Annals of Applied Statistics*, 2018+
- 3 **Jared D. Huling** and Peter Z. G. Qian. Fast penalized regression and cross validation for tall data with the `oem` package. To appear in the *Journal of Statistical Software*, 2018+. URL <https://arxiv.org/abs/1801.09661>
- 4 **Jared D. Huling**, Menggang Yu, Muxuan Liang, and Maureen Smith. Risk prediction for heterogeneous populations with application to hospital admission prediction. *Biometrics*, 74(2):557–565, 2018
- 5 Xiao Nie, **Jared Huling**, and Peter Z. G. Qian. Accelerating large-scale statistical computation with the GOEM algorithm. *Technometrics*, 59(4):416–425, 2017
- 6 Shifeng Xiong, Bin Dai, **Jared Huling**, and Peter Z. G. Qian. Orthogonalizing EM: A design-based least squares algorithm. *Technometrics*, 58(3):285–293, 2016

## Preprints and Manuscripts Under Review

1. **Jared D. Huling** and Menggang Yu. Subgroup identification using the personalized package. Submitted, 2018+. URL <https://arxiv.org/abs/1809.07905>
2. Xiaowu Dai and **Jared D. Huling**. Selection and estimation optimality in high dimensions with the TWIN penalty. 2018+. URL <https://arxiv.org/abs/1806.01936>
3. **Jared D. Huling** and Peter Chien. Neural networks for flexible emulation of large and complex computer experiments. Submitted, 2018+

## Selected Awards and Honors

<b>Travel Award</b> BiostatMCW	2017
<b>Student Travel Award</b> Spring Research Conference on Statistics in Industry and Technology	2016
<b>Student Travel Award</b> International Conference on Health Policy Statistics	2015

## Research & Professional Experience

### **N.I.H. Predoctoral Fellow Trainee in Biostatistics      August 2012 - July 2015**

Performed four rotations from Fall 2012 to Spring 2014.

- Spring 2014: Collaborated with Prof. Sijian Wang in the development of outcome weighted learning techniques for multiple treatments for subgroup identification.
- Fall 2013: Collaborated with Prof. Menggang Yu in the development and implementation of instrumental variable estimation techniques in survival analysis for the comparison of surgical repair procedures for abdominal aortic aneurysm.
- Spring 2013: Collaborated with Prof. Mark Craven on utilizing hidden Markov models for the identification and characterization of surgical skill using video data.
- Fall 2012: Collaborated with Prof. Michael Newton in developing a testing procedure to determine if a surrogate cell selection technique was able to preferentially select expanded clone T-cells.

## Presentations - Invited

- Jun 2018: *Risk Prediction for Heterogeneous Populations with Application to Hospital Admission Prediction*, 2018 ICSA Applied Statistics Symposium
- Jun 2018: *Neural Networks for Flexible and Fast Emulation of Computer Experiments*, Joint Research Conference 2018
- Apr 2018: *Comparative Intervention Scoring for Assessing Heterogeneity of Long-Term Health System Intervention Effects*, Joint Biostatistics Symposium 2018
- Apr 2017: *Heterogeneity of Intervention Effects and Subgroup Identification Based on Longitudinal Outcomes*, New England Statistics Symposium 2017
- Feb 2017: *Addressing Population Heterogeneity in Hospital System Modeling*, Emory University, Biostatistics Seminar
- Feb 2017: *Addressing Population Heterogeneity in Hospital System Modeling*, The Ohio State University, Statistics Seminar
- Aug 2016: *Deep Learning for Emulation in Uncertainty Quantification*, Joint Statistical Meetings 2016
- Apr 2016: *Endovascular vs. Open Surgery: Analysis of Survival Outcomes Using Instrumental Variables*, Dartmouth, Department of Biomedical Data Science - Biostatistics Seminar

## Presentations

- Jul 2018: *Semiparametric Sufficient Dimension Reduction for Heterogeneous Populations with Application to Health System Risk Modeling*, IBC Barcelona 2018
- Jan 2018: *Risk Prediction for Heterogeneous Populations with Application to Hospital Admission Prediction*, ICHPS 2018
- Sep 2017: *Risk Prediction for Heterogeneous Populations with Application to Hospital Admission Prediction*, BiostatMCW 2017
- Mar 2017: *Statistical Modeling for Heterogeneous Populations with Application to Hospital Admission Prediction*, ENAR 2017
- May 2016: *Stabilizing Gradient Enhanced Kriging with Sparsity Constraints*, Spring Research Conference on Statistics in Industry and Technology
- Oct 2015: *Mortality Comparison of Endovascular versus Open Repair for Abdominal Aortic Aneurysm using Instrumental Variables*, Poster, International Conference on Health Policy Statistics
- Sep 2015: *Instrumental Variable Estimation in Censored Regression*, UW-Madison Department of Statistics Student Seminar.
- May 2014: *Individualized Treatment Rules with Multinomial Outcome Weighted Learning*, Biostatistics and Medical Informatics Trainee Seminar.
- Dec 2013: *Endovascular vs. Open Surgery: Analysis of Survival Outcomes Using Instrumental Variables*, Biostatistics and Medical Informatics Trainee Seminar.
- May 2013: *Hidden Markov Models and Fisher Scores for Surgical Skill Modeling*, Biostatistics and Medical Informatics Trainee Seminar.
- Dec 2012: *Does Surrogate Selection of T-cells Preferentially Sample Expanded Clones?*, Biostatistics and Medical Informatics Trainee Seminar.

## Teaching and Mentoring Experience

- Fall 2018: Statistics 6450 - Applied Regression Analysis
- Fall 2017: Statistics 6450 - Applied Regression Analysis
- Apr 2017: (With Menggang Yu) taught short course *Subgroup Analysis and Treatment Scoring with Application in Precision Medicine*, New England Statistics Symposium 2017
- Jun-Aug 2015: Mentored a student in the Computational Biology and Biostatistics Summer Research Program
- Jul-Aug 2013, 2014, 2015: Teaching Assistant for the Summer Institute in Biostatistics program

## Computing

### Software

Most of my open-source software is available for download at my GitHub site: [github.com/jaredhuling](https://github.com/jaredhuling)

- *personalized* – An R package with estimation and evaluation methods for subgroup identification / personalized medicine for observational studies and randomized controlled trials. Available at [cran.r-project.org/package=personalized](https://cran.r-project.org/package=personalized). Documentation available at [jaredhuling.org/personalized/](https://jaredhuling.org/personalized/).
- *oem* – An R package for the efficient computation of a wide variety of penalized linear regression models for tall data. Available at [cran.r-project.org/package=oem](https://cran.r-project.org/package=oem). Documentation available at [jaredhuling.org/oem/](https://jaredhuling.org/oem/).
- *vennLasso* – An R package for variable selection for heterogeneous populations. Available at [cran.r-project.org/package=vennLasso](https://cran.r-project.org/package=vennLasso). Documentation available at [jaredhuling.org/vennLasso/](https://jaredhuling.org/vennLasso/).
- *personalizedLong* – An R package with estimation and evaluation methods for subgroup identification / personalized medicine for longitudinal studies. Available at [github.com/jaredhuling/personalizedLong](https://github.com/jaredhuling/personalizedLong).
- *aftiv* – An R package for instrumental variable estimation for time-to-event outcomes under the semiparametric accelerated failure time model. Available at [github.com/jaredhuling/aftiv](https://github.com/jaredhuling/aftiv).

**Languages:** R, C++, Python, Javascript, L<sup>A</sup>T<sub>E</sub>X

Last updated: November 11, 2018