JACOB M. MARONGE

(478) · 957 · 7548 ◇ jmmaronge@gmail.com
1300 University Ave, Madison, WI 53706
https://jmmaronge.github.io ◇ *jmmaronge* ◇ *@jmmaronge*

RESEARCH INTERESTS

Experimental design, statistical computing, neuroimaging, genomics, longitudinal studies

EDUCATION

University of Wisconsin-Madison August 2016 - Present
PhD, Statistics

Louisiana State University Health Sciences Center May 2016
MS, Biostatistics
Thesis: "Optimal Designs for Wavelet Regression Models"
Advisor: Zhide Fang

University of Wisconsin-Milwaukee May 2014
BS, Physics

PROFESSIONAL EXPERIENCE

University of Wisconsin-Madison August 2016 - Present
NIH Predoctoral Trainee in Biostatistics, Program Director: Paul J. Rathouz *Madison, WI*

- Grant number: T32HL083806-10
- Performed semester-long rotations:
  Summer 2017: Worked with Paul J. Rathouz and Katie Hustad on a longitudinal study focusing on expressive language development of children diagnosed with Cerebral Palsy.
  Spring 2017: Worked with Michael Newton on an Empirical Bayes Method to compare covariance matrices across multiple conditions.
  Fall 2016: Worked with Christina Kendziorski on analysis of single cell mRNA sequencing experiments.

Johns Hopkins University, Bloomberg School of Public Health Summer 2016
Summer Intern, Advisor: Ciprian M. Crainiceanu *Baltimore, MD*

- Worked with the Statistical Methods and Applications for Research in Technology (SMART) Research Group.
- Addressed issues in segmentation of stroke ischemia patients by implementing a localized neighborhood principal components analysis approach.
- Participated in the France Life Imaging-Information Analysis and Management (FLI-IAM) Multiple Sclerosis Lesion Segmentation Challenge with John Muschelli, Elizabeth Sweeney, and Russell Shinohara. We implemented a random forest technique in the challenge.

PUBLICATIONS

Peer-Reviewed:

Maronge JM, Zhai Y, Weins DP, Fang Z. *Optimal designs for wavelet regression models.* The Journal of Statistical Planning and Inference. 184, 2017.

Tudorascu D, Karim H, **Maronge JM**, Alhilali L, Muschelli J, Crainiceanu C. *Reproducibility and Bias in Healthy Brain Segmentation: Comparison of Two Popular Neuroimaging Platforms.* Frontiers of Neuroscience. 10, 2016.

Manuscripts in progress:

Maronge JM, Muschelli J, Crainiceanu C. *Global PCA decomposition of local neighborhood moments with applications to MRI.* In progress.

PRESENTATIONS

Talks:

Maronge JM. *Empirical Bayes Analysis of Covariance* University of Wisconsin Department of Biostatistics and Medical Informatics Student Seminar, Madison, WI, May 5, 2017.

Maronge JM. *Single Cell RNA Sequencing: Analysis and Applications* University of Wisconsin Department of Biostatistics and Medical Informatics Student Seminar, Madison, WI, December 16, 2016.

Posters:

Maronge JM, Fang Z. *Optimal Designs for Wavelet Regression Models.* Louisiana State University Health Sciences Center School of Public Health Delta Omega Research Day, New Orleans, LA, April 20, 2016.

Maronge JM, Fang Z. *Optimal Designs for Wavelet Regression Models.* Louisiana State University Health Sciences Center School of Graduate Studies Research Day, New Orleans, LA, November 6, 2015.

PROFESSIONAL MEMBERSHIPS

American Statistical Association April 2015 - Present
Delta Omega Honorary Society for Public Health May 2016 - Present

COMPUTING SKILLS

Languages: R, SAS, MATLAB, Virtual Basic, Mathematica
Markup: LaTeX, Rmarkdown, Microsoft Office

SOFTWARE

medals: R package to implement Memory Efficient Decomposition for Analysis of Local neighborhood moments for Segmentation (MEDALS). Available on GitHub.