John A. Ramey II, Ph.D.

Data Scientist, BlackLocus: Home Depot Innovation Lab — johnramey@gmail.com
Austin, Texas, USA — http://ramhiser.com

Personal Statement

I build intelligent systems in the form of data products that utilize data to inform human users to make better decisions and to automate processes that require extensive time, labor, and resources. My research interests are in statistical and machine learning with an emphasis on Bayesian methods.

Education

Baylor University — Waco, TX
Ph.D. Statistics — *July 2012*

- Adviser: Dean M. Young, Ph.D.

Baylor University — Waco, TX
M.Sc. Statistics — *Dec. 2009*

Baylor University — Waco, TX
B.Sc. Mathematics (Minor: Computer Science) — *Aug. 2008*

Publications

Finak, G., Frelinger J., Jiang, W., Newell, E., **Ramey, J.**, Davis, M., Kalams, S., de Rosa, S., and Gottardo, R. (2014) "OpenCyto: An Open Source Infrastructure for Scalable, Robust, Reproducible, and Automated, End-to-End Flow Cytometry Data Analysis," *PLOS Computational Biology*, 10, 8.

Ramey, J. A. and Young, P. D. (2013) "A Comparison of Regularization Methods Applied to the Linear Discriminant Function with High-Dimensional Microarray Data," *Journal of Statistical Computation and Simulation*, 83, 3, 581–596.

McDermott, J., Wang, J., Mitchell, H., Webb-Robertson, B., Hafen, R., **Ramey, J.**, and Rodland, K. (2013) "Challenges in Biomarker Discovery: Combining Expert Insights with Statistical Analysis of Complex Omics Data," *Expert Opinion on Medical Diagnostics*, 7, 1, 37–51.

Articles Submitted for Publication

Sego, L. H., Shulman, S. A., Anderson, K. K., **Ramey, J. A.**, Wilson, J. E., Pulsipher, B. A., and Sieber, W. K. "A Bayesian Acceptance Sampling Model for Combining Judgmental and Randomly Selected Samples." (under revision)

Software Projects (Available at http://github.com/ramhiser)

`activelearning`: An R Package for Querying Unlabeled Observations with Active Learning.

`clusteval`: Evaluation of Clustering Algorithms in R.

`datamicroarray`: Collection of High-Dimensional Microarray Data Sets.

`itertools2`: A port of Python's `itertools` module to R for efficient looping via iterators.

`noncensus`: An R collection to interface with data collected by the U.S. Census Bureau.

`openCyto`: An R Package for Automated Analysis of Flow Cytometry Data.

`sortinghat`: An R package for error-rate estimation methods for supervised classification.

`sparsediscrim`: An R Package for Regularized and Sparse Discriminant Analysis Methods.

Research Experience

Fred Hutchinson Cancer Research Center Seattle, WA
Postdoctoral Research Fellow *August 2012 - October 2013*

Pacific Northwest National Laboratory Richland, WA
Research Associate, National Security Internship Program *June 2011 - July 2012*

Statistical and Machine Learning Research Group Waco, TX
Department of Statistical Science, Baylor University *2009 - 2012*

Research Experience for Undergraduates at The Ohio State University Columbus, OH
Vertical Integration of Research and Education in Computational Mathematics *Summer 2004*

Conference Papers

Ramey, J. A. and Young, D. M. (2010). *A More Computationally Efficient Model Selection Method for Regularized Discriminant Analysis*, Joint Statistical Meetings Proceedings, Vancouver, BC, Canada.

Awards, Grants & Honors

Home Depot Award for Excellence . . . . . April 2015
Travel Grant, $1,000 – Baylor University 2011
Outstanding Graduate Student – Department of Statistical Science, Baylor University 2011
JSM Stat Bowl – Champion 2010
Outstanding First Year Graduate Student – Department of Statistical Science 2009
Baylor University Dean's Scholarship 2008-2012

Invited Talks

Ramey, J. A. (November 2012). *Automated Bayesian Gating with OpenCyto.* FlowCAP-III Summit, National Institute of Health, Bethesda, Maryland, USA.

Ramey, J. A. (February 2012). *Diagonal Discriminant Analysis with Simultaneous Diagonalization of Covariance Matrices.* Fred Hutchison Cancer Research Center, Seattle, Washington, USA.

Ramey, J. A. (February 2011). *Diagonal Discriminant Analysis after Simultaneous Diagonalization of Covariance Matrices with High-Dimensional Data.* Pacific Northwest National Laboratory, Richland, Washington, USA.

Presentations

Ramey, J., Stein, C. K., and Young, D. M. (June 2013) *High-Dimensional Regularized Discriminant Analysis.* Southern Regional Council on Statistics 2013, Louisville, Kentucky, USA. (poster)

Ramey, J., Finak, G., Jiang, M., Taghiyar, J., de Rosa, S., Brinkman, R., and Gottardo, R. (May 2013) *Automated Flow Cytometry Data Analysis with the OpenCyto Framework.* Cyto 2013, San Diego, California, USA. (poster)

Ramey, J. A. (August 2012). *On the Estimation of Similarity Indices in Clustering Evaluation.* Joint Statistical Meetings, San Diego, California, USA.

Ramey, J. A. and Young, D. M. (August 2010). *Efficient Model Selection for Regularized Discriminant Analysis.* Joint Statistical Meetings, Vancouver, British Columbia, Canada. (poster)

Ramey, J. A. (April 2010). *Bayesian Regularized Logistic Regression in High-Dimensional Classification.* Instituto Panamericano de Estudios Avanzados en Probabilidad y Estadística: Semana en Métodos de Reducción de Dimensión. Centro de Investigación en Matemáticas, A.C. Guanajuato, Mexico. (poster)

Journal Reviewer

Journal of Statistical Computation and Simulation

Journal of Statistical Software

Professional Service

Session on Generalized Linear and Mixed Models — Joint Statistical Meetings
Chair — *August 2012, San Diego, CA, USA*

Teaching Experience

Elementary Statistics Baylor University
Teacher of Record *Aug. 2009 - May 2011*

- Taught this freshman level course in the Statistics Department.
- Developed homework, quizzes and exams for the class.
- Attended weekly meetings to enhance and improve teaching skills and techniques.

Statistics Department Tutoring Lab Baylor University
Graduate Teaching Assistant *Aug. 2008 - May 2011*

- Conducted one-on-one and group tutoring to students in undergraduate statistics courses.

Statistics for Psychology Majors Baylor University
Graduate Teaching Assistant *Aug. 2008 - Jul. 2009*

- Provided weekly supplemental instruction to a small group of undergraduate students.
- Lectured to a large number of students in an auditorium during professor absences.
- Led weekly course seminars.

Professional Membership

American Statistical Association

2008-present

Skills

Programming and Markup Languages

- **Skilled:** R
- **Proficient:** LaTeX, Linux, Python, SQL
- **Experienced:** ASP, BUGS, C#, C++, Java, Mathematica, MATLAB, .NET, PHP

Miscellaneous

Innovation in Graduate Education Challenge National Science Foundation
Judge *2013*

Systems and Computational Biology Affinity Group Fred Hutchinson Cancer Center
Co-Organizer *2013*

United States Soccer Federation
Referee *1995 - present*

References

Dr. Dean Young (Ph.D. Adviser)
Department of Statistical Science, Baylor University

Dr. John Seaman
Department of Statistical Science, Baylor University

Dr. Landon Sego
Applied Statistics and Computational Modeling, Pacific Northwest National Laboratory

Dr. James Stamey
Department of Statistical Science, Baylor University