

John A. Ramey II, Ph.D.

Postdoctoral Researcher, Fred Hutchinson Cancer Research Center
Seattle, Washington, USA

johnramey@gmail.com
<http://ramhiser.com>

Personal Statement

My research interests are primarily in statistics with an emphasis on bioinformatics applications in the areas of statistical pattern recognition, machine learning, modern multivariate analysis, computational statistics, and Bayesian methods.

Education

Baylor University

Ph.D. Statistics

– Adviser: Dean M. Young, Ph.D.

Waco, TX

June 2012

Baylor University

M.Sc. Statistics

Waco, TX

Dec. 2009

Baylor University

B.Sc. Mathematics (Minor: Computer Science)

Waco, TX

Aug. 2008

Awards, Grants & Honors

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

Publications

Ramey, J. A. and Young, P. D. “A Comparison of Regularization Methods Applied to the Linear Discriminant Function with High-Dimensional Microarray Data,” *Journal of Statistical Computation and Simulation*. (in press)

McDermott, J., Wang, J., Mitchell, H., Webb-Robertson, B., Hafen, R., **Ramey, J.**, and Rodland, K. “Challenges in Biomarker Discovery: Combining Expert Insights with Statistical Analysis of Complex Omics Data,” *Expert Opinion on Medical Diagnostics*. (in press)

Submitted Publications

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)

Greer, B., Young, D., Harvill, J., and **Ramey, J.** “Pseudo-likelihood Intervals for the Ratio of Two Poisson Rates with Data Subject to Under-Reporting.”

Publications in Preparation

Ramey, J. A., Sego, L. H., and Young, D. M. “Cluster Stability Evaluation of Gene Expression Data via Cluster Omission.”

Ramey, J. A. and Young, D. M., “SimDiag: An Alternative to Diagonal Discriminant Analysis for High-Dimensional Gene Expression Data.”

Ramey, J. A., Sego, L. H., and Young, D. M., “On the Estimation of Similarity Indices in Clustering Evaluation.”

Ramey, J. A., Young, D. M., and Sego, L. H., “On Model Selection with Regularized Discriminant Analysis.”

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.

Invited Talks

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.

Poster Presentations

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

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.

Journal Reviewer

Journal of Statistical Computation and Simulation

Research Experience

Fred Hutchinson Cancer Research Center

Seattle, WA

Postdoctoral Researcher in Statistical Genetics under Dr. Raphael Gottardo August 2012-present

Pacific Northwest National Laboratory

Richland, WA

Research Associate, National Security Internship Program June 2011 - July 2012

- Apply machine learning and multivariate statistical methods to genomic and proteomic data.
- Construct clustering evaluation and validation methods for microarray and proteomic data.
- Employ supervised, semi-supervised, unsupervised, and active learning methods along with semi-supervised clustering with large data sets to incorporate subject-matter expertise for improved performance and understanding of data.

Statistical and Machine Learning Research Group

Waco, TX

Department of Statistical Science, Baylor University

2009-present

Research Experience for Undergraduates at The Ohio State University

Columbus, OH

Vertical Integration of Research and Education in Computational Mathematics Summer 2004

- Focused on Number Theory with an emphasis on Random Matrix Theory.

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.

Software Projects (Available at <http://github.com/ramey>)

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

classify: A Supervised Classification Benchmarking Framework in R.

diagdiscrim: An R Package for Diagonal Discriminant Analysis Models.

errorest: An R Package for Error Rate Estimation for Statistical and Machine Learning.

regdiscrim: An R Package for Covariance Matrix Regularization in Discriminant Analysis.

Professional Membership

Member – Seattle R Users Group

2012-present

Student Member – Association for Computing Machinery

2011-present

Student Member – Institute of Electrical and Electronics Engineers

2011-present

Student Member – American Statistical Association

2008-present

Skills

Programming and Markup Languages

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

Miscellaneous

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