John A. Ramey II

Ph.D. Candidate, Department of Statistics, Baylor University — johnramey@gmail.com
Waco, Texas, USA — http://johnramey.net

Personal Statement

My research interests are primarily in applied statistics in the areas of statistical pattern recognition, machine learning, high-dimensional multivariate analysis, and computational statistics.

Education

Baylor University — Waco, TX
Ph.D. Statistics — *May 2012 (Anticipated)*
- Advisor: 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*

Awards, Grants & Honors

Outstanding Graduate Student - Department of Statistical Science 2011
JSM Stat Bowl - Champion 2010
Outstanding First Year Graduate Student - Department of Statistical Science 2009
Baylor University Dean's Scholarship 2008-2013

Publications

Ramey, J. A. and Young, P. D. (2012), "A Comparison of Regularization Methods Applied to the Linear Discriminant Function with High-Dimensional Microarray Data", *Journal of Statistical Computation and Simulation.* (in press)

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.* (submitted)

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.

Presentations

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.

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.

Working Papers

Ramey, J. A., Young, P. D., and Young D. M., *Improvements to Diagonal Linear Discriminant Analysis with High Dimensional Microarray Data.*

Ramey, J. A., Young, P. D., and Young D. M., *On Applying Diagonalization to Covariance Matrices for Diagonal Quadratic Discriminant Analysis via Generalized EIgenvalues: Improved Supervised Classification with High Dimensional Microarray Data.*

Ramey, J. A., Young, P. D., and Young D. M., *Regularized Diagonal Discriminant Analysis with Simultaneous Diagonalization of Covariance Matrices.*

Ramey, J. A., Young, P. D., and Young D. M., *A More Computationally Efficient Model Selection Method for Regularized Discriminant Analysis.*

Ramey, J. A., Young, P. D., and Young D. M., *Model Selection for Regularized Discriminant Analysis with Distance Measures.*

Ramey, J. A., Young, P. D., and Young D. M., *Improving Classification Rates of Regularized Discriminant Analysis: Model Selection with Nonparametric Regression.*

D.M. Young, Ramey, J. A., and Young, P. D., *A Note on Nonnegative-definite Covariance Structures for which the BLU, WLS, and LS Estimators Are Equal.* (submitted)

Young, P. D., Ramey, J. A., and Young D. M., *A Matrix Skew Normal Distribution.*

Ramey, J. A., Young, P. D., and Young D. M., *On the Performance of High-Dimensional Classifiers after Transforming Features to Multivariate Normality.*

Ramey, J. A., Young, P. D., and Young D. M., *Regularized Discriminant Analysis: A Modern Approach to Model Selection with High Performance Computing in* `R` *with the* `regdiscrim` *Package.*

Ramey, J. A., Young, P. D., and Young D. M., *Bayesian Regularized Logistic Regression in High-Dimensional Classification.*

Other Research Experience

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, especially Random Matrix Theory.

Professional Membership

Founder – R Users Group Waco, TX
Department of Statistical Science, Baylor University *2010-present*

Member – American Statistical Association
2008-present

Teaching Experience

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

- 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 - Present*

- Provided 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*

- Supplemental Instruction.
- Led weekly course seminars.

Work Experience

Pacific Northwest National Laboratory Richland, WA
Research Associate *June 2011 - Present*

Candidate Resources, Inc. Grand Prairie, TX
Senior Web Programmer *Jan. 2007 - Nov. 2007*

- Initiated development of a new flagship product using the .NET platform.
- Maintained a legacy code base written in Classic ASP.
- Administrated MS SQL Server and MS Access databases for clients.
- Provided technical support to staff and clients.

Baylor University, Electronic Libraries Waco, TX
Student Programmer *Aug. 2006 - Dec. 2006, Aug. 2007 - May 2008*

- Developed PHP websites and scripts with Oracle databases for Baylor faculty and staff.

Instructional Technology Assistant *Feb. 2002 - Aug. 2006*

- Instructed Baylor faculty and staff one-on-one and in seminars on Microsoft Office and educational software.

Skills

Programming and Markup Languages

- **Skilled:** R
- **Proficient:** ASP.NET, Classic ASP, C#, LaTeX, PHP, SQL, WinBUGS
- **Currently Learning:** Python

Specialized Software

- JMP, Mathematica, MATLAB, Microsoft Office, Microsoft SQL Server, Microsoft Visual Studio, Oracle, SAS

References

Dr. Dean Young (Adviser)
Department of Statistical Science, Baylor University
Contact information available upon request.

Dr. John Seaman
Department of Statistical Science, Baylor University
Contact information available upon request.

Dr. James Stamey
Department of Statistical Science, Baylor University
Contact information available upon request.