William Michael Landau

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3211 Snedecor Hall   http://will-landau.com/
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Ames, IA 50011

Education

PhD, Statistics, Iowa State University	Expected May 2016
MS, Statistics, Iowa State University	May 2013
BS, Mathematics, University of Chicago	June 2011

Research

Publications

- Niemi, Jarad and Mittman, Eric and **Landau, Will** and Nettleton, Dan Empirical Bayes Analysis of RNA-seq Data for Detection of Gene Expression Heterosis. *Journal of Agricultural, Biological, and Environmental Statistics*, (1-15), 2015.
- **Landau, W. M.** and Liu, P. Dispersion Estimation and Its Effect on Test Performance in RNA-seq Data Analysis: A Simulation-Based Comparison of Methods. PLOS One, 8 (12): (December), 2013.
- Ratliff, B. J. and Womack. C. C. and Tang, X. N. and **Landau, W. M.** and Butler, L. J. and Szpunar, D. E. Modeling the Rovibrationally Excited C_2H_4OH Radicals from the Photodissociation of 2-Bromoethanol at 193 nm. *Journal of Physical Chemistry*, 114 (14): (4934-45), (April), 2010.

Posters

- **Landau, W. M.** and Niemi, Jarad. A Fully Bayesian Hierarchical Modeling Strategy for Identifying Gene Expression Heterosis using Parallel Computing with Graphics Processing Units (GPUs). Conference on Applied Statistics in Agriculture, Kansas State University, 2015. (Similar poster presented at the Joint Statistical Meetings in Boston, MA in 2014.)
- **Landau, W. M.** and Liu, P. Dispersion Estimation and its Effect on Test Performance in RNA-Seq Data Analysis. Joint Statistical Meetings, 2013. Montreal, QC, Canada.

Employment

Research Assistant[++]   **June 2013 - present**

- Jointly developed a fully Bayesian method to detect important genes in high-dimensional genomic datasets.
- Authored an R package with a CUDA backend for massively parallel computation.
- NIH grant R01GM109458

Research Assistant[++]   **August 2013 – December 2013**
GPU Computing Seminar Series   **August 2012 – December 2012**

- Authored and presented a high-performance computing seminar

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[++] Iowa State University Department of Statistics

series at http://will-landau.com/gpu/, also on YouTube.

Course Instructor[++]		**January 2013 – May 2013**
STAT 305: Engineering Statistics		**January 2012 – May 2012**

Teaching Assistant[++]   **August 2011 – December 2011**
STAT 231: Engineering Probability
STAT 105: Introduction to Engineering Statistics

Leadership

Creator and Organizer[++]   **September 2015 – Present**
Cloud Computing Working Group
- Presented and coordinated tutorial seminars on cloud computing services and on-campus computing clusters.

Computation Advisory Committee[++]   **September 2015 – Present**

Volunteer Instructor[+]   **March 13, 2014**
Office of Precollegiate Programs for Talented and Gifted (OPPTAG)
- Taught probability concepts to middle school students using an in-class game.

Preparing Future Faculty Fellow[+]   **August 2013 – June 2014**

Boxing Club Assistant Coach[+]   **August 2012 – December 2013**

Skills

Data science
- Hierarchical models, Bayesian methods, Markov chain Monte Carlo, high-dimensional data analysis, linear and nonlinear models, data mining, machine learning, predictive modeling, multivariate analysis, statistical computing, exploratory analysis, visualization, genomics data analysis

Computing
- R, R package development, Rcpp, C/C++, CUDA C/C++, shell scripting, Python, JavaScript, SAS, SQL, AWK, Haskell, Fortran

Markup
- R Markdown, Markdown, ioslides, knitr, LaTeX, HTML, CSS

References

Jarad Niemi   niemi@iastate.edu
- PhD major professor

Peng Liu   pliu@iastate.edu
- MS major professor

Additional references available on request.

+ Iowa State University