

Jill Lundell

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Postdoctoral Research Fellow

Education

PhD, Mathematical Sciences , Utah State University, Logan, Utah Dissertation: Tuning Hyperparameters in Supervised Learning Models and Applications of Statistical Learning in Genome-Wide Association Studies with Emphasis on Heritability.	2019
M.S., Statistics , Utah State University, Logan, Utah Thesis: On the Model Selection in a Frailty Setting	1998
B.S., Mathematics , Utah State University, Logan, Utah	1996

Credentials

Accredited Professional Statistician™ (PSTAT) American Statistical Association	2014-Present
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Employment History

Postdoctoral Research Fellow, Harvard T.H. Chan School of Public Health Boston, Massachusetts <ul style="list-style-type: none">• Develop and implement data science technologies in collaborative research at Dana-Farber Cancer Institute• Develop new data science methods in genomics and machine learning• Organize the Quantitative Issues in Cancer Research Working Seminar• Assist in grant writing for collaborative work and seek funding for own research• Mentor doctoral students and junior postdocs	2019-Present
Senior Statistician, North Wind, Inc. Idaho Falls, Idaho <ul style="list-style-type: none">• Managed all statistical activities at Northwind Group and affiliated North Wind companies• Created sampling designs, identified data needs, performed all statistical analyses, and wrote analytical reports• Wrote proposals to obtain external funding from private companies• Provided statistical expertise on projects in many disciplines including nuclear energy, ecology, environmental remediation, and environmental monitoring• Managed all non-routine sampling activities for Idaho National Laboratories	2017–2019

- Senior Statistician, Portage, Inc.** 2000–2017
Idaho Falls, Idaho
- Performed the same duties as at North Wind
 - Created and taught short courses to clients and employees on introductory statistics, including sampling design and hypothesis testing
 - Wrote proposals to obtain new statistical work for Portage and was a key contributor to proposals for large company contracts. Funding was secured from agencies such as the Environmental Protection Agency, U.S. Army Corps of Engineers, Bureau of Land Management, and private companies
- Faculty, Brigham Young University Idaho** 2011-2017
Rexburg, Idaho
- Taught undergraduate mathematics and statistics to classes of up to 50 students
 - Assisted in the creation of the statistics minor for the university with two other instructors
 - Developed a new introduction to statistics curriculum with a team of four instructors and curriculum designers
 - Created new upper division statistics courses
 - Created a training module for faculty and students to teach them how to use the statistical package R
- Adjunct Faculty, Idaho State University** 2001–2003
Pocatello, Idaho
- Taught undergraduate level classes in mathematics and statistics
- Temporary Lecturer and Consultant, Utah State University** 1998–2000
Logan, Utah
- Taught undergraduate and graduate level classes in mathematics and statistics
 - Ran the university statistical consulting center with one other professor. The center provided statistical consulting to all faculty and graduate students doing research at the university.
- Graduate Research Assistant, Los Alamos National Laboratories** 1997
Los Alamos, New Mexico
- Provided statistical analysis for a Hepatitis C phylogenetic project in the Theoretical Biology group. I was the only statistician in the group so I had to research the methods that were needed for the project. Methods included bootstrapping genetic code, classifying phylogenies, and bootscanning to look for mosaicism in viral RNA.
 - Discovered that a type of hepatitis C that had been identified as a separate species was a mutation in the RNA for a small group of people in Indonesia. That group was reclassified as a subtype of a different species because of this discovery.
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Awards

Second place winner of the 2018 Data Expo at the Joint Statistical Meetings (JSM) in Vancouver, British Columbia. This competition is sponsored by the Section on Computational Statistics and Graphics of the ASA and is held approximately every 3 years. The competition requires innovative and comprehensive analysis of a provided data set with results presented at a special session of JSM. My entry was titled "Let's talk about the weather".	2018
PhD Recipient of the Ellis R. Ott Scholarship for Applied Statistics and Quality sponsored by the ASQ Statistics Division. One scholarship is awarded to a Ph D student each year.	2018
Presidential Doctoral Research Fellow at Utah State University	2015-2019
Exemplary Faculty Award at Brigham Young University Idaho	2013
Superior Student Scholarship at Utah State University	1993-1997
Hunsaker Scholarship for Mathematics at Utah State University	1993-1997
Cora T. Hayward Scholarship for Community Service, Bountiful, Utah	1993
NSF travel award for the Conference on Statistical Learning and Data Science / Nonparametric Statistics, New York City, New York	2018
Travel award for the Graybill Conference on Statistical Genomics and Genetics, Fort Collins, Colorado	2017

R Packages

EZtune : a package for auto tuning supervised learning models	2018
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Submitted Publications

Lundell JF , Bean B, and Symanzik J. Let's talk about the weather: a cluster-based approach to weather forecast accuracy. <i>Submitted to Computational Statistics April 2019.</i>	2019
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Publications in Preparation

Lundell JF, Fu G, Carlsen M. Genome-wide association study identifies susceptibility loci for polycystic ovary syndrome in European women.

Lundell JF. EZtune: An R package for simple tuning of supervised learning models.

Lundell JF. Three phase filtering of ultra-high dimensional genetic data with LASSO, elastic net, and random forests.

Nonrefereed Publications

- Lundell JF**, Bean B, Symanzik J. Let's talk about the weather. *JSM Proceedings*, Statistical Computing Section. Alexandria, VA: American Statistical Association. 2018.
- Lundell JF**. There has to be an easier way: a simple alternative for parameter tuning of supervised learning methods. *JSM Proceedings*, Statistical Computing Section. Alexandria, VA: American Statistical Association. 2017.
- Lundell JF**, Magnuson SO, Scherbinske P, Case MJ. Data quality objectives supporting the environmental direct radiation monitoring program for the Idaho National Laboratory. INL/EXT-15-34803. June 2015.
- Lundell JF**. On the model selection in a frailty setting, Unpublished Master's Thesis. Utah State University Department of Mathematics and Statistics. August 1998.

Presentations

- Lundell JF**, Bean B. "I hate group projects! A solution to group work angst using interdisciplinary consulting as a guide," Together We Teach Conference, Logan, Utah. 2018.
- Lundell JF**, Bean B, Symanzik J. "Let's talk about the weather," Joint Statistical Meetings, Vancouver, British Columbia. 2018.
- Lundell JF**. "Which genes are really causing my problems? Filtering with LASSO and elastic net to find the signal in ultra-high dimensional data," The Conference on Statistical Learning and Data Science / Nonparametric Statistics, New York City, New York. 2018.
- Lundell JF**. "There has to be an easier way: a simple alternative for parameter tuning of supervised learning methods," Joint Statistical Meetings, Baltimore, Maryland. 2017.
- Lyons R, **Lundell JF**, Peralta R, "Groundwater modeling of the Uinta Basin, Utah, as a boundary condition of the Birds Nest Aquifer", Utah State University Spring Run-Off Conference, Logan, Utah. 2017.
- Lundell JF**, Fu G, "Analysis of ultra-high-dimensional polycystic ovary syndrome genome using DC-RR," Joint Statistical Meetings, Chicago, Illinois. 2016.
- Lundell JF**, Oates B, "Why I should stick my nose in other people's business or why I should participate in all phases of the data life cycle," Radiobioassay and Radiochemical Measurements Conference, Knoxville, Tennessee. 2014.
- Lundell JF**, Oates B, "How far can you drive with three flat tires and one good tire or why the data life cycle matters to me," Radiobioassay and Radiochemical Measurements Conference, Knoxville, Tennessee. 2014.

Lundell JF, LaCroix D, Oates B, "Data quality assessment: what is it, why use it, and what's in it for me?" EPA Quality Management Conference, San Antonio, Texas. 2009

Funding

2018. Butte Area One Parrot tailings removal, Water and Environmental Technologies (PI for North Wind). 2018

Statistical analysis of coal combustion residuals for PacifiCorp coal power plants, Water and Environmental Technologies (PI for North Wind). 2017-2018

Laboratory quality software database with data analytics. EZ Analytics (PI for Portage). 2015

Luckey, Ohio, remediation. United States Army Corps of Engineers (Subject matter expert for Portage). 2014

Data life cycle software. Portage principal owners (PI for Portage) 2014

Libby Asbestos OU-3 Tubb Gulch Drainage Site investigation and engineering evaluation and cost analysis development. USDA-Forest Service, Northern Regional Forester's Office Missoula, Montana (Subject matter expert for Portage) 2014

Statistical analysis for groundwater monitoring at the Idaho CERCLA Disposal Facility at Idaho National Laboratory. CWI and Fluor (PI for Portage and North Wind) 2010-2018

Expert statistical/ modeling support for data evaluation and risk assessment. United States Environmental Protection Agency Region 8 (PI for Portage) 2010-2011

Montana dioxin background study. Montana Department of Environmental Quality (Co-PI Portage) 2009-2011

Teaching Experience

Utah State University

- STAT 1040 (formally STAT 201) Introduction to Statistics 2016-2017, 1998-2000
- STAT 508 Sampling 2000
- MATH 121 Calculus Techniques 1999
- STAT 502 Intermediate Statistics 1998
- STAT 2000 Statistics for Life Sciences 1998
- MATH 101 Algebra 1997

Brigham Young University Idaho

- MATH 325 Intermediate statistics 2012-2014
- MATH 221X Introduction to statistics (business, social statistics, and biostatistics) 2011-2014
- MATH 108 Math for the real world 2011-2013

Portage

- Introduction to data quality assessment 2007
- Introduction to sampling design 2004

Idaho State University

- MATH 1153 Introduction to Statistics 2002-2003
- MATH 1108 Intermediate Algebra 2002-2003
- MATH 0015 Arithmetic and Pre-Algebra 2002

Programming Languages and Computer Skills

Proficient	Working Knowledge	Exposure
R	Deep learning	C++
Python		C
SAS		
Cluster computing		
LaTeX		
GIT		
Linux/Unix		

Affiliations

American Statistical Association	2005-Present
Society of Industrial and Applied Mathematics	2016-Present
Western North American Region of The International Biometric Society	2016-Present
