







# J. HATHAWAY

## EDUCATION

- 2005 ● **Brigham Young University**  
M.S. in Statistics  Provo, Utah  
  
Thesis: [Determining the Optimum Number of Increments in Composite Sampling](#)
- 2003 ● **University of Utah**  
B.S. in Economics  Salt Lake City, Utah

## STATISTICS AND DATA SCIENCE

- 2017  
|  
Current ● **Data Science Program Chair**  
Brigham Young University - Idaho  Rexburg, ID
  - Lead program development team for [degree proposal and acceptance](#).
  - Society faculty mentor of [Data Science Society](#) where we run 5-10 business consulting projects each semester.
  - Primary faculty advisor, business liaison coordinator, and program review coordinator.
  - Employer connection development for the program, consulting projects in society, and consulting class.
  - [RBDC](#) faculty liaison and sales.
- 2015  
|  
Current ● **Full Professor**  
Brigham Young University - Idaho  Rexburg, ID
  - Course lead for multiple data science courses, data science consulting, and data science senior projects.
  - Lead development of new data science courses in Computer Science and Software Engineering (DS 150, DS 250, DS 350, and DS 460, MATH 488).
  - Lead faculty retooling and development for data science instruction.
  - Faculty advisory board for the [Research and Business Development Center](#).
- 2005  
|  
Current ● **Owner and Consultant**  
[Data Driven](#)  Rexburg, ID
  - [Knowledge Integration Global Health](#) visualization (ggplot2), analytics (tidyverse and Pyspark), and big data electronic health records applications (Pyspark).
  - Visual Sample Plan applications and statistical sample size designs.
  - R package maintenance and development.
  - [Research & Business Development Center](#) data science consulting.
- Fall 2021 ● **Visiting Teaching Fellow in Data Science**  
[Kennesaw State University](#)  Kennesaw, GA

## CONTACT INFO

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- in [linkedin.com/in/hathawayj](https://www.linkedin.com/in/hathawayj)
- 📞 +1 208-932-8306

## SKILLS

Highly skilled in R (16 years) and data science in R (6 years). Skilled in Python (Pandas: 3 years) and Big Data Python (Pyspark: 2 years). Comfortable with SQL, LaTeX, Markdown, and RMarkdown.

Data visualization expertise using [ggplot2](#), [Altair](#), and [Tableau](#)

Data science teaching and curriculum development exemplified through five new courses key to BYU-Idaho's program.

6+ years supporting varied clients with data science needs through Data Driven and the Research and Business Development Center.

Analytics and data science team and technical management ([VSP](#) & [PRIMA](#)).

Sampling methods and designs ([VSP](#)).

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Last updated on 2022-03-26.

- Cotaught graduate consulting course with the [Center for Statistics and Analytical Research's Bill Franks](#).
- Taught [special topics course on data science in R and Python](#) for undergraduates.

2005  
|  
2015

### Senior Scientist

[Pacific Northwest National Laboratory](#)

Richland, WA

- Lead data scientist for [PRIMA](#) with a team of 4 other data scientists.
- [Visual Sample Plan](#) program manager and [UXO technical lead](#).
- Lead statistician for [DOE building energy code](#) compliance and evaluations.
- Statistical method development in composite sampling (incremental sampling) with ITRC, [Army Corps of Engineers](#), [ESTCP](#) and [VSP](#).

## TEACHING

2020  
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Current

### Data Science Programming (DS 250)

Lead developer of course design and methods.

[Website](#)

- Uses Python and the base set of data science Python packages to introduce data science programming - Pandas, scikit-learn, Altair.

Fall 20, Winter 21, Spring 21,  
Winter 22

2018  
|  
Current

### Statistical and Data Science Consulting (M488)

Course lead and client liaison

[Website](#)

- Manage 4-8 projects from industry and campus clients.
- Applications using PowerBI, Tableau, Python, SQL, and R.
- Clients spanning the US and ranging from banking to mining.
- Teach project management and data ethics.

Winter 18, Spring 18, Fall 18,  
Winter 19, Spring 19, Fall 19,  
Winter 20, Spring 20, Fall 20,  
Winter 21, Spring 21, Winter 22,  
Spring 22

2021  
|  
Current

### Big Data Programming and Analytics (DS 460)

Lead developer of course design and methods

[Repository](#)

- Leverages [Databricks](#)), [Azure](#), and [Docker](#) to teach [Spark](#) and big data analytics for data scientists.

Winter 21, Spring 21, Winter 22,  
Spring 22

2018  
|  
2020

### Design Thinking: Inquiry and Innovation (ART 231)

Course council member and teacher

[Website](#)

- Empower students to design and complete projects using principles from [IDEO](#).

Spring 18, Fall 18, Winter 20,  
Spring 22

2018  
|  
2021

### Data Science Senior Projects (DS 499)

Mentor 3-10 student-driven projects

[Website](#)

- [Andrew Wolfe's senior project](#)

Spring 18, Fall 18, Winter 19,  
Spring 19, Fall 19, Winter 20,  
Spring 20, Fall 20, Winter 21,  
Spring 21

2017  
|  
2020

### Data Wrangling and Visualization (DS 350)

Lead developer and teacher of the course.

[Website](#)

- Built around the Tidyverse in R.
- Case study based on real-world data applications.

Fall 17, Winter 18, Spring 18, Fall  
18, Winter 19, Spring 19, Fall 19,  
Winter 20

2010  
|  
2017

### Visual Sample Plan (UXO Modules)

Lead teacher of remote short courses

[Website](#)

- Course taught throughout the US to EPA, DOE, DoD, and contractors.
- DoD-sponsored courses through PNNL and private courses.

## PUBLICATIONS & TECHNICAL PAPERS

- 2020 ● **Development And Validation Of A Steep Incline And Decline Metabolic Cost Equation For Steady-State Walking.**  
DE Lankford, Y Wu, JT Bartschi, J Hathaway, AD Gidley  
*European Journal of Applied Physiology*, 120 (9), 2095-2104
- 2019 ● **Assessing Overall Building Energy Performance Of A Large Population Of Residential Single-Family Homes Using Limited Field Data.**  
Y Xie, V Mendon, M Halverson, R Bartlett, J Hathaway, Y Chen, ...  
*Journal of Building Performance Simulation*, 12 (4), 480-493
- 2017 ● **Simulation-Based Coefficients For Adjusting Climate Impact On Energy Consumption Of Commercial Buildings.**  
N Wang, A Makhmalbaf, V Srivastava, J Hathaway  
*Building simulation*, 10 (3), 309-322
- 2017 ● **Evaluating Penalized Logistic Regression Models To Predict Heat-Related Electric Grid Stress Days.**  
LM Bramer, J Rounds, CD Burleyson, D Fortin, J Hathaway, J Rice, ...  
*Applied Energy*, 205, 1408-1418
- 2015 ● **Impacts Of Climate Change On Energy Consumption And Peak Demand In Buildings: A Detailed Regional Approach.**  
JA Dirks, WJ Gorrissen, J Hathaway, DC Skorski, MJ Scott, TC Pulsipher, ...  
*Energy*, 79, 20-32
- 2015 ● **Investigating The Nexus Of Climate, Energy, Water, And Land At Decision-Relevant Scales: The Platform For Regional Integrated Modeling And Analysis (Prima).**  
I Kraucunas, L Clarke, J Dirks, J Hathaway, M Hejazi, K Hibbard, ...  
*Climatic Change*, 129 (3), 573-588
- 2015 ● **21st Century United States Emissions Mitigation Could Increase Water Stress More Than The Climate Change It Is Mitigating.**  
MI Hejazi, N Voisin, L Liu, LM Bramer, DC Fortin, J Hathaway, M Huang, ...  
*Proceedings of the National Academy of Sciences*, 112 (34), 10635-10640
- 2015 ● **Calculating Impacts Of Energy Standards On Energy Demand In Us Buildings With Uncertainty In An Integrated Assessment Model.**  
MJ Scott, DS Daly, J Hathaway, CS Lansing, Y Liu, HC McJeon, ...  
*Energy*, 90, 1682-1694
- 2015 ● **Explosive Particle Soil Surface Dispersion Model For Detonated Military Munitions.**  
J Hathaway, JP Rishel, ME Walsh, MR Walsh, S Taylor  
*Environmental monitoring and assessment*, 187 (7), 1-15
- 2014 ● **Visual Sample Plan Version 7.0 User's Guide.**  
BD Matzke, LLN Newburn, J Hathaway, LM Bramer, JE Wilson, ...  
PNNL, Richland, WA
- 2014 ● **Nationwide Buildings Energy Research Enabled Through An Integrated Data Intensive.**  
K Kleese van Dam, C Lansing, T Elsethagen, J Hathaway, Z Guillen, ...  
*Building simulation*, 7 (4), 335-343
- 2014 ● **Calculating Impacts Of Energy Standards On Energy Demand In Us Buildings Under Uncertainty With An Integrated Assessment Model: Technical Background Data.**  
MJ Scott, DS Daly, J Hathaway, CS Lansing, Y Liu, HC McJeon, ...  
PNNL, Richland, WA

- 2014 ● **Demonstration Report For Visual Sample Plan Remedial Investigation (Vsp-Ri) Sampling Methods At The Motlow Site In Tennessee.**  
 BA Pulsipher, J Hathaway, BD Matzke, JE Wilson, LLN Newburn  
 PNNL, Richland, WA
- 2013 ● **Statistical Methods For Defining Climate-Similar Regions Around Weather Stations Using Nldas-2 Forcing Data.**  
 J Hathaway, TC Pulsipher, J Rounds, JA Dirks  
 PNNL, Richland, WA
- 2013 ● **Lumen Maintenance Testing Of The Philips 60-Watt Replacement Lamp L Prize Entry, Pnnl-21594.**  
 KL Gordon, RP Hafen, J Hathaway, JJ McCullough  
 PNNL, Richland, WA
- 2013 ● **Cross-Combined Composite Sampling Designs For Identification Of Elevated Regions.**  
 J Hathaway, S Walsh, L Segó, B Pulsipher  
*Environmental and ecological statistics*, 20 (1), 69-90
- 2012 ● **Lumen Maintenance Testing Of The Philips 60-Watt Replacement Lamp L Prize Entry.**  
 KL Gordon, RP Hafen, J Hathaway, JJ McCullough  
 PNNL, Richland, WA
- 2012 ● **Ultrasonic Phased Array Sound Field Mapping Through Large-Bore Coarse Grained Cast Austenitic Stainless Steel (Cass) Piping Materials.**  
 AD Cinson, SL Crawford, MS Prowant, AA Diaz, J Hathaway, ...  
*Nondestructive Characterization for Composite Materials, Aerospace ...*,
- 2011 ● **A Bayesian Approach To Monitoring And Assessing Unexploded Ordnance Remediation Progress From Munitions Testing Ranges.**  
 S Walsh, K Anderson, J Hathaway, B Pulsipher  
*Stochastic Environmental Research and Risk Assessment*, 25 (6), 805-814
- 2011 ● **Demonstration Report For Visual Sample Plan (Vsp) Verification Sampling Methods At The Navy/Dri Site.**  
 BA Pulsipher, J Hathaway, KK Anderson, JE Wilson  
 PNNL, Richland, WA
- 2010 ● **A Statistical Method To Analyze Led Lumen Depreciation And Project Useful Led Product Life.**  
 HA Qiao, TC Pulsipher, J Hathaway, EE Richman, E Radkov  
*IES Annual Conference*,
- 2009 ● **Evaluation Of Spatially Clustered Ordnance When Using Compliance Sampling Surveys After Clean-Up At Military Training Sites.**  
 J Hathaway, RO Gilbert, JE Wilson, BA Pulsipher  
*Stochastic Environmental Research and Risk Assessment*, 23 (2), 253-261
- 2009 ● **Statistical Algorithms Accounting For Background Density In The Detection Of Uxo Target Areas At Dod Munitions Sites.**  
 BD Matzke, JE Wilson, J Hathaway, BA Pulsipher  
*Stochastic Environmental Research and Risk Assessment*, 23 (2), 181-191
- 2009 ● **Whole Building Cost And Performance Measurement: Data Collection Protocol Revision 2.**  
 KM Fowler, KL Spees, AR Kora, EM Rauch, J Hathaway, AE Solana  
 PNNL, Richland, WA
- 2009 ● **Whole Building Cost And Performance Measurement: Data Collection Protocol.**  
 K Fowler, K Spees, A Kora, E Rauch, J Hathaway, A Solana  
*Revision*,
- 2009 ● **Whole Building Cost And Performance Measurement: Data**

**Collection Protocol Revision 2. Pnnl-18325.**

KM Fowler, KL Spees, AR Kora, EM Rauch, J Hathaway, AE Solana

PNNL, Richland, WA

2008

● **Determining The Optimum Number Of Increments In Composite Sampling.**

J Hathaway, GB Schaalje, RO Gilbert, BA Pulsipher, BD Matzke

*Environmental and Ecological Statistics*, 15 (3), 313-327

2008

● **Ultrasonic Examination Of Double-Shell Tank 241-An-102 Examination Completed July 2008..**

AF Pardini, DR Weier, KK Anderson

PNNL, Richland, WA

2008

● **Application Of Integrated Visual Sample Plan Uxo Design And Analysis Module To The Former Camp Beale For The Estcp Wide Area Assessment Demonstration.**

J Hathaway, B Pulsipher, B Roberts, S McKenna

PNNL, Richland, WA

2008

● **Compliance Sampling Applications In Mec Clean-Up At Military Training Sites.**

J Hathaway, RO Gilbert, JE Wilson, BA Pulsipher

*Stochastic Environmental Research and Risk Assessment*,

2007

● **Application Of Statistically Based Site Characterization Tools To Victorville Precision Bombing Ranges Y And 15 For The Estcp Wide Area Assessment Demonstration.**

J Hathaway, B Pulsipher

GEOLOGICAL SURVEY RESTON VA,

2006

● **Final Report For Statistical Methods And Tools For Uxo Site Characterization On Final Simulated Site.**

J Hathaway, B Pulsipher, J Wilson, C McKinstry, S McKenna, B Roberts

PNNL, Richland, WA