Justin Dallmann

data scientist

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Summary

Lead data scientist with excellent interpersonal skills, experience in statistical modelling, actuarial mathematics, machine learning, project management, data stewardship initiatives, the theory of evidence, and decision theory. Years of experience presenting technical material in an accessible way via (i) business presentations, (ii) research presentations and (iii) teaching statistics, logic, critical thinking, probability, and ethical theory at the university level.

Experience

The Dufresne Spencer Group, *Retail Business Intelligence, Analytics and Machine Learning Lead*, October 2017-present.

- **Lead data scientist** responsible for coordinating and implementing advanced analytics projects, across all business units to provide actionable insights for an international retail furniture organisation.
- **Projects include**: marketing mix regression modelling, building data reporting visualization tools in Power BI and R Markdown, time-series forecasting, clustering analyses, and hypothesis testing.
- Member of the organisation's "**centre of excellence**," in charge of transforming the business into an insight driven organisation working directly with the CEO.
- Founder and director of the **data stewardship** initiative, ensuring that best data management practices are followed. This includes oversight of data integrity; ensuring that sensitive data is handled ethically and legally; that the organisation's data is accurate; and that it is sustainably maintained and well-documented by acting as program lead in developing a clean "data mart" for analysts, built on **SQL Server** and **Power BI**.

General programming and technical background

- Advanced knowledge of statistical language R.
- Cleaning, wrangling, and validating data in R, Bash, SQL, and Python.
- Data visualisation using R Markdown and Power BI.
- Familiarity with a variety of data formats including SQL databases, popular APIs, csv files, JSON, and Excel files.
- Familiarity with SPSS, JMP, Matlab/Octave, Mathematica, and Java.
- Working familiarity with Git version control.
- **For short data analysis examples see my github repository**: `https://github.com/jdallmann/Analysis.Examples`
- For an R package dedicated to democratising data on **Winnipeg**, which I wrote and maintain see: `https://github.com/jdallmann/winnipegr`

Typesetting, Documentation and Information Presentation Languages

- Coded typesetting templates and systems for creating professional-grade written documents meeting the standards of various journals and the College of Arts, Letters, and Sciences at the University of Southern California (USC).
- The project involved code in LaTeX and in Pandoc Markdown.

Education

PhD Philosophy—Formal Epistemology, *University of Southern California*, Los Angeles, CA, 2015.

- My dissertation focuses on optimal resource allocation in human evidence processing. In it, I develop a probabilistic model of our cognitive limitations using the mathematics of queues and use decision theoretic tools to assess which models maximise expected belief accuracy. Computer assisted proofs for the model were coded in Mathematica and simulations were coded in Matlab.
- Selected awards and honours received for my PhD include a Social Sciences and Humanities Research Council of Canada Fellowship (SSHRC is a prestigious nationwide fellowship for which 4.8% of early stage doctoral applicants were successful), the Flewelling Award (awarded annually to one or two outstanding philosophy graduate students).

MA Philosophy—Foundations of Statistics, *University of Manitoba*, Winnipeg, MB, 2009.

- My thesis project develops two new puzzles for probabilistic theories of evidence in the Bayesian tradition.
- Selected awards and honours received for my MA include the Dean of Graduate Studies Student Achievement Award (awarded annually to one graduate student at the University of Manitoba for notable community involvement and academic achievement), the Donald Vernon Snider Fellowship (awarded annually to one graduate student), a Manitoba Graduate Scholarship, and a SSHRC Fellowship.

BA Honours in Philosophy with credit for a Major in Statistics, *University of Manitoba*, Winnipeg, MB, 2007.

- Highest U1 GPA for all of the University of Manitoba and associated schools (Isbister Award), and the Paul David Russell Medal recipient for highest achievement in Philosophy.

Actuarial Exams

- Exam P (probability exam, passed with score 8, March 2017).

Machine Learning Certificate, *Stanford University*, February 19, 2016.

- Stanford Coursera course taught by Andrew Ng. Final grade: A.

Probabilistic Graphical Models, *Stanford University*, March 9, 2017.

- Stanford Coursera course taught by Daphne Koller. Final grade: A.

Data Science Specialization, *Johns Hopkins Bloomberg School of Public Health*, June 2017-August 2017.

- 10 course specialization in data science taught by Roger D. Peng, Brian Caffo, and Jeff Leek. All grades: A.

Data-science Relevant Teaching Experience

University Professor, *University of Manitoba, University of Southern California*, 2012–2015.

- Designed and taught several courses in **critical thinking** (UM), **intermediate mathematical logic** (USC), and **environmental ethics** (UM).
- Received outstanding teaching reviews (available on request).

Lab Instructor, *University of Manitoba, University of Southern California*, 2006–2011.
- Directed lab discussions in **statistics** (UM Statistics), **symbolic logic** (UM Philosophy), **theories of explanation** (USC Philosophy), **moral theory** (USC Philosophy), and **medical ethics** (UM Faculty of Medicine).
- Received outstanding discussion section reviews (available on request).
- As lab instructor in **statistics** (2008-2009), where I have used **SPSS** and **JMP** software.

Guest Lecturer, *University of Manitoba, University of Southern California, University of Toronto*, 2010–2015.
- Delivered various guest lectures in university seminars on cognitive decision theory (UT), fallacies in reasoning (UM), the theory of linguistic meaning (UM), abortion (USC), probability and the theory of evidence (USC).

Other, 2005–2008.
- Graded for the university courses Introduction to Philosophy, Critical Thinking, and Biomedical Ethics (UM).
- Served as Disability Services Tutor in Mathematics, Statistics, and Philosophy (UM).
- Facilitated workshops on post-secondary education for grade 10 and 11 students for a study with Education Citizenship and Youth branch of the Manitoba Government.
- Delivered presentations on the history of Manitoba for Riel House NHSC.

Research Employment

University of Toronto, *SSHRC Postdoctoral Fellowship*, August 2015-July 2017.
- Researcher focusing on models of our cognitive limitations, the foundations of the theory of evidence, and probability.

Ducks Unlimited Canada—Oak Hammock Marsh, *Interpreter*, Winnipeg, Summer, 2003, 2017.
- Assisted in wildlife studies, developed training material for future staff, and translated school program information from English to French.

Research Assistantships
- *Carl Matheson*, The Stanford Encyclopedia of Philosophy entry on 'Historicist Theories of Rationality', University of Manitoba, 2007–2008.
- *Denis Gagnon*, Research Chair of Canada on Métis Identity, Collège universitaire de Saint Boniface, 2004–2006.

Selected Publications

1. "When Obstinacy is a (Better) Cognitive Policy", *Philosophers' Imprint*, (2017).

2. "Confirmation", with Franz Huber in *Oxford Bibliographies Online*, (2017).

3. "Understanding Probability: A Review of Darrell Rowbottom's 'Probability'", *Metascience*, 25(2), 331-333, (2016). DOI: `10.1007/s11016-016-0073-x`.

4. "Historicist Theories of Scientific Rationality", with Carl Matheson in Edward N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy*, (2014).
   URL = `http://plato.stanford.edu/entries/rationality-historicist/`.

5. "A Normatively Adequate Credal Reductivism", *Synthese*, 191(10):2301-2313, (2014). DOI: `10.1007/s11229-014-0402-9`.

Public Speaking and Presentations

I have presented complicated and original scholarship in an accessible way to specialists and non-specialists in conference talks at over thirty venues, covering material on explanation, evidence, inference, probability, ethics, and decision theory. Selected highlights include presentations at:

- Princeton University
- Berkeley-Stanford-Davis Conference
- University of Oslo
- UCLA
- The 2nd annual Inductive Logic and Confirmation in Science Workshop
- University of Toronto
- The Munich Conference on Evidence, Inference, and Risk in Pharmacology
- The NYU Norms of Inquiry Workshop
- The Formal Epistemology Workshop

Organizational Direction and Leadership

Editing and Refereeing
- *General editor* at *Le Cogito*, Collège universitaire de Saint Boniface from 2003–05.
- *Referee and commentor* on work by over 40 scholars in the review process for journals and conferences in my fields of research. A full list available on request.

Event Organization
- I have served as lead organizer for several conferences (including two UNESCO World Philosophy Day Conferences) and have assisted with the organization of several others.
- I have organized or helped to facilitate seven half-year reading groups on topics relevant to inference, uncertainty, and evidence (details available on request).

Committee Work
- *President*, Pegasus: the USC philosophy graduate student association, 2010–2011.
- *Committee Member*, Philosophy in the Schools (PITS): Manitoba division, 2009.
- *Vice-président*, La Société philosophique, Collège universitaire de Saint Boniface, 2005–2006.
- *Président*, La Société philosophique, Collège universitaire de Saint Boniface, 2003–2005.

Awards and grants

I have a demonstrated ability to successfully apply for grants and external funding, securing over $265,000 for personal research and a full scholarship to the University of Southern California worth more than $200,000. A complete list of my successful grant applications and awards are available on request.

Languages

Fluent	**English, French**
Core Coding	**R, Excel (DAX & M), SQL, LaTeX, Markdown**
Working comp.	**Python, Matlab/Octave, Mathematica, Bash, Java, HTML**