

2025 SORA-TABA Annual Workshop

Veridical Data Science Online Workshop

Monday
April 28th, 2025
10:00am – 5:00pm

Dalla Lana School of Public Health
University of Toronto

Rebecca Barter, PhD

Research Assistant Professor, Division of Epidemiology, University of Utah



Description: The Veridical Data Science (VDS) workshop introduces the PCS (Predictability, Computability, Stability) framework, pioneered by Prof. Bin Yu, to emphasize real-world validation and the role of human judgment in data analysis. Through live content and hands-on exercises, participants will explore how reality checks can strengthen data-driven insights and how judgment calls influence conclusions. The workshop covers techniques for assessing the trustworthiness of a wide range of analytical results using predictability and stability analyses. Participants will gain a deeper understanding of how to conduct trustworthy data analysis and the critical role of transparency in decision-making. This workshop is based on the open-source book “Veridical Data Science: The Practice of Responsible Data Analysis and Decision-Making” by Bin Yu and Rebecca Barter.

The intended audience is anyone who has experience conducting data analysis. Faculty, staff, postdoctoral fellows, and graduate students are welcome. No advanced statistical, mathematical, or coding background will be required. The final segment of the workshop will include discussion about prediction models, so having a basic understanding of linear regression would be helpful for this part.

The workshop will be software agnostic. It is intended to be relevant to a wide range of data analysis software, including Excel, Stata, R, Python, etc.

Program:

Module 1: Introduction to Veridical Data Science

1. Introducing Veridical Data Science
2. The PCS (Predictability, Computability, and Stability) framework
3. Motivating example(s)

Module 3: Stability

1. Types of stability assessments for trustworthiness evaluation
2. Prediction perturbation intervals and stability plots
3. Stability assessment case study

Module 2: Predictability assessments

1. Types of predictability assessments for trustworthiness evaluation
2. Predictability case study

Module 4: Full veridical data science case study and best practices

Speaker Bio: Dr. Rebecca Barter is a Research Assistant Professor in the Division of Epidemiology at the University of Utah. As a statistician, data scientist, and educator, Dr Barter specializes in data science education and the analysis of complex healthcare data. Dr. Barter earned her PhD in Statistics from the University of California, Berkeley, in 2019, where she co-authored the book Veridical Data Science: The Practice of Responsible Data Analysis and Decision Making with her advisor, Professor Bin Yu. In addition to her academic work, Dr. Barter shares data science resources and insights on her blog, www.rebeccabarter.com.

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