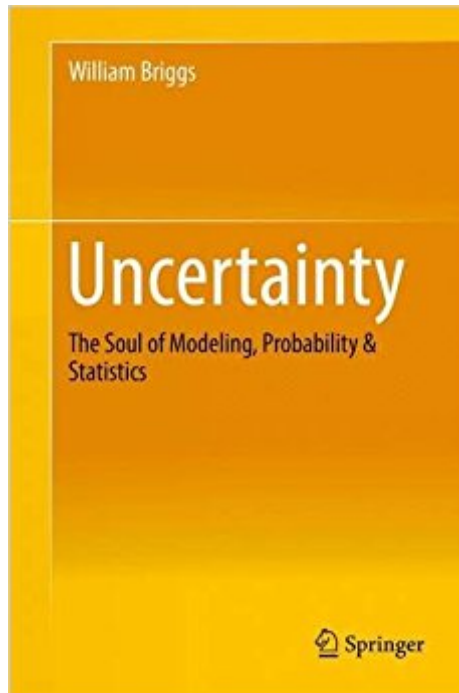# Uncertainty: The Soul Of Modeling, Probability & Statistics

Synopsis

This book presents a philosophical approach to probability and probabilistic thinking, considering the underpinnings of probabilistic reasoning and modeling, which effectively underlie everything in data science. The ultimate goal is to call into question many standard tenets and lay the philosophical and probabilistic groundwork and infrastructure for statistical modeling. It is the first book devoted to the philosophy of data aimed at working scientists and calls for a new consideration in the practice of probability and statistics to eliminate what has been referred to as the "Cult of Statistical Significance." Â The book explains the philosophy of these ideas and not the mathematics, though there are a handful of mathematical examples. The topics are logically laid out, starting with basic philosophy as related to probability, statistics, and science, and stepping throughÂ the key probabilistic ideas and concepts, and ending with statistical models. Â Its jargon-free approach asserts that standard methods, such as out-of-the-box regression, cannot help in discovering cause. This new way of looking at uncertainty ties together disparate fields â • probability, physics, biology, the â œsoftâ • sciences, computer science â • because each aims at discovering cause (of effects). It broadens the understanding beyond frequentist and Bayesian methods to propose a Third Way of modeling.

Book Information

Hardcover: 258 pages

Publisher: Springer; 1st ed. 2016 edition (June 30, 2016)

Language: English

ISBN-10: 3319397559

ISBN-13: 978-3319397559

Product Dimensions: 6.1 x 0.7 x 9.2 inches

Shipping Weight: 1.2 pounds (View shipping rates and policies)

Average Customer Review: 4.5 out of 5 starsÂ Â See all reviewsÂ (10 customer reviews)

Best Sellers Rank: #49,694 in Books (See Top 100 in Books)   #5 inÂ Books > Textbooks > Humanities > Philosophy > Epistemology   #21 inÂ Books > Textbooks > Humanities > Philosophy > Logic   #26 inÂ Books > Politics & Social Sciences > Philosophy > Epistemology

Customer Reviews

This book is, in many ways, two books in one. The first is an excellent review of the philosophy of uncertainty, probability, and causes. This portion would stand on its own quite well, and an astute reader would be able to draw out the second part mostly on their own from its foundations. The key

to this part of the book is understanding that probability is not ontological. Along the way, an Aristotelian view of causes is given which provides a necessary context to help distinguish probability from cause. This may be very new or different to some readers, but it's quite necessary and edifying.The latter portion draws out the ideas from the former into the actual mechanics of probability and statistics, giving examples along the way. It is helpful for solidifying and demonstrating the first part of the book. The book is also suffused with personality, which may be a turnoff for some. I myself enjoyed it.I'll briefly compare this book to 'Black Swan' because it is one the few recent books to address issues in modern probability and statistics. While 'Black Swan' was edifying in many ways, it was not very critical of the foundations of P&S. It took a segment of P&S work and said why methods are unsuccessful there. 'Uncertainty' takes us back to the first principles and could re-derive 'Black Swan' as a sequel, and do so from the perspective of causes and propositions, not merely from criticism of the lack of success in predictions (although there is certainly that!).I knocked off one star because the book does wander a bit at times and feels less polished for flow. There are also several typos (readers of Briggs' blog will recognize the work of his enemies there) that an editor should have caught.

Uncertainty: The Soul of Modeling, Probability & Statistics Engineering Uncertainty and Risk Analysis, Second Edition: A Balanced Approach to Probability, Statistics, Stochastic Models, and Stochastic Differential Equations Statistics for People Who (Think They) Hate Statistics (Salkind, Statistics for People Who(Think They Hate Statistics(Without CD)) Matrices With Applications in Statistics (Wadsworth statistics/probability series) Time Series Modeling for Analysis and Control: Advanced Autopilot and Monitoring Systems (SpringerBriefs in Statistics / JSS Research Series in Statistics) Elementary Stochastic Calculus With Finance in View (Advanced Series on Statistical Science & Applied Probability, Vol 6) (Advanced Series on Statistical Science and Applied Probability) Student Solutions Manual for Stewart/Day's Calculus for Life Sciences and Biocalculus: Calculus, Probability, and Statistics for the Life Sciences Introduction to Probability and Statistics for Engineers and Scientists, Fifth Edition Schaum's Outline: Probability and Statistics, Second Edition Schaum's Outline of Introduction to Probability and Statistics (Schaum's Outlines) Probability: Modeling and Applications to Random Processes Concepts in Probability and Stochastic Modeling (An Alexander Kugushev Book) Soul Mates & Twin Flames: Discover a Timeless Love, Fulfill Your Soul's Purpose, and Experience a Higher Level of Love (Soul Mates, Twin Flames, Karmic ... Spirits, Endless Love, Spiritual Partner) Modern Applied Statistics With S-Plus (Statistics and Computing) An Introduction to Statistics with Python: With Applications in the Life Sciences

(Statistics and Computing) All of Statistics: A Concise Course in Statistical Inference (Springer Texts in Statistics) Winning The Lottery: Revealed! Proven Tips, Techniques, and Strategies on How to Win the Lottery (Lotteries, Probabilities, Statistics) (Winning the Lottery, Lotteries, Probabilities, Statistics) Matrix Algebra: Theory, Computations, and Applications in Statistics (Springer Texts in Statistics) Applied Bayesian Statistics: With R and OpenBUGS Examples (Springer Texts in Statistics) Modeling Longitudinal Data (Springer Texts in Statistics)

[Dmca](#)