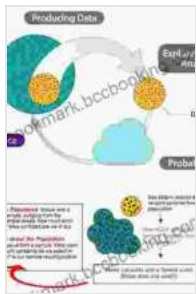


Unveiling the Secrets of Statistical Modelling and Inference Using Likelihood: A Comprehensive Guide

: Stepping into the World of Statistical Modelling

In today's data-driven world, the ability to understand and interpret statistical information is crucial. Statistical modelling and inference provide a powerful framework for making sense of complex data, enabling us to draw meaningful insights and make informed decisions.

At the heart of statistical modelling lies the concept of likelihood, a fundamental principle that guides us in estimating unknown parameters and making predictions. This book, "Statistical Modelling and Inference Using Likelihood," serves as an indispensable roadmap for navigating the intricacies of likelihood-based statistical methods.



In All Likelihood: Statistical Modelling and Inference Using Likelihood by Yudi Pawitan

★★★★☆ 4.6 out of 5

- Language : English
- File size : 31501 KB
- Text-to-Speech : Enabled
- Screen Reader : Supported
- Enhanced typesetting : Enabled
- Print length : 543 pages
- Lending : Enabled



Chapter 1: The Foundation of Likelihood-Based Inference

Chapter 1 establishes the theoretical foundation of likelihood-based inference. It begins by introducing the concept of likelihood and exploring its properties. You will learn how to construct likelihood functions for various statistical models, including exponential families, linear regression, and generalized linear models.

Furthermore, this chapter delves into the principles of maximum likelihood estimation, a cornerstone of likelihood-based inference. You will gain a thorough understanding of how to find maximum likelihood estimates and assess their statistical properties.

Chapter 2: Hypothesis Testing and Model Selection

Chapter 2 focuses on the crucial aspects of hypothesis testing and model selection. You will learn how to formulate statistical hypotheses and use likelihood-based methods to test them. The chapter covers various hypothesis testing procedures, including likelihood ratio tests and Wald tests.

Additionally, you will explore model selection techniques, such as the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC). These methods empower you to choose the most appropriate model for your data, ensuring accurate and reliable results.

Chapter 3: Advanced Topics in Likelihood-Based Inference

Chapter 3 delves into advanced topics in likelihood-based inference, expanding your knowledge and equipping you with specialized techniques. You will discover the intricacies of profile likelihood and learn how to construct confidence intervals and regions for parameters of interest.

Furthermore, this chapter introduces you to Bayesian inference, a powerful alternative to frequentist inference. You will gain insights into Bayesian methods, including prior distributions, posterior distributions, and Markov Chain Monte Carlo (MCMC) techniques.

Chapter 4: Case Studies and Applications

Chapter 4 brings the theoretical concepts to life through a series of real-world case studies and applications. You will see how likelihood-based methods are employed in diverse fields, including finance, medicine, and ecology.

These case studies demonstrate the practical significance of statistical modelling and inference. You will learn how to apply likelihood-based techniques to solve real-world problems and make data-driven decisions with confidence.

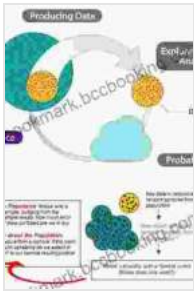
: Mastering the Art of Statistical Modelling and Inference

In the concluding chapter, you will reflect on the journey of statistical modelling and inference. You will appreciate the power of likelihood-based methods and understand their versatility in addressing a wide range of statistical problems.

"Statistical Modelling and Inference Using Likelihood" is an invaluable resource for students, researchers, and practitioners in various disciplines. Its comprehensive coverage and practical examples will empower you to unlock the secrets of statistical modelling and make informed decisions based on data. Embrace the transformative power of likelihood and embark on a journey of statistical discovery.

Call to Action:

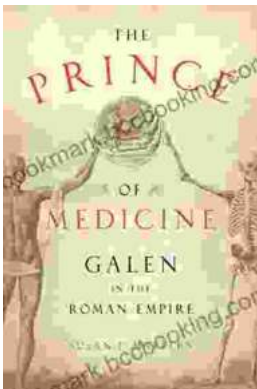
Don't wait any longer to enhance your statistical toolkit. Free Download your copy of "Statistical Modelling and Inference Using Likelihood" today and unlock a world of data-driven insights. Join the ranks of statistical experts who make informed decisions and drive innovation with confidence.



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