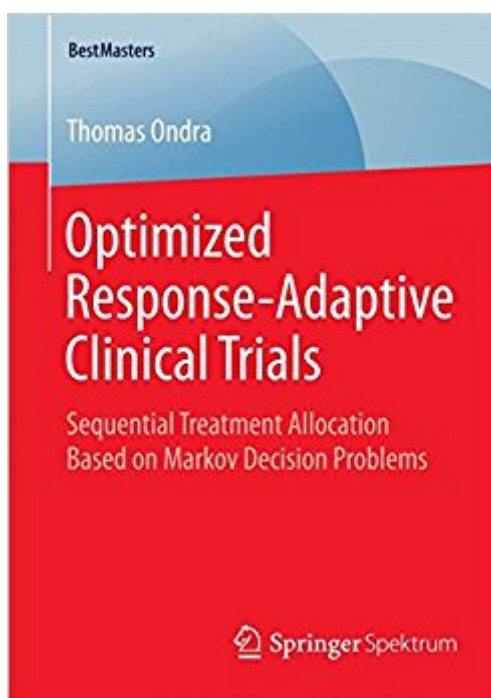


The book was found

Optimized Response-Adaptive Clinical Trials: Sequential Treatment Allocation Based On Markov Decision Problems (BestMasters)



Synopsis

Two-armed response-adaptive clinical trials are modelled as Markov decision problems to pursue two overriding objectives: Firstly, to identify the superior treatment at the end of the trial and, secondly, to keep the number of patients receiving the inferior treatment small. Such clinical trial designs are very important, especially for rare diseases. Thomas Ondra presents the main solution techniques for Markov decision problems and provides a detailed description how to obtain optimal allocation sequences.

Book Information

Series: BestMasters

Paperback: 102 pages

Publisher: Springer Spektrum; 2015 edition (December 4, 2014)

Language: English

ISBN-10: 3658083433

ISBN-13: 978-3658083434

Product Dimensions: 5.8 x 0.3 x 8.3 inches

Shipping Weight: 7.7 ounces (View shipping rates and policies)

Average Customer Review: Be the first to review this item

Best Sellers Rank: #866,520 in Books (See Top 100 in Books) #137 in [Books > Science & Math > Mathematics > Popular & Elementary > Counting & Numeration](#) #747 in [Books > Science & Math > Mathematics > Mathematical Analysis](#) #1217 in [Books > Textbooks > Science & Mathematics > Mathematics > Calculus](#)

Customer Reviews

“It is a remarkably concise exposition of the use of MDPs in a pharmaceutical setting; as such, the book’s audience is the intersection of researchers and students with a sophisticated mathematical background and professionals in the pharmaceutical industry. The book is a very sophisticated treatise on MDP models for managing response-adaptive clinical trials and both mathematicians and pharmaceutical professionals would appreciate it.”
(James Smith, *Interfaces*, Vol. 45 (4), July–August, 2015)

Two-armed response-adaptive clinical trials are modelled as Markov decision problems to pursue two overriding objectives: Firstly, to identify the superior treatment at the end of the trial and, secondly, to keep the number of patients receiving the inferior treatment small. Such clinical trial

designs are very important, especially for rare diseases. Thomas Ondra presents the main solution techniques for Markov decision problems and provides a detailed description how to obtain optimal allocation sequences.

Contents

Introduction to Markov Decision Problems and Examples

Finite and Infinite Horizon Markov Decision Problems

Solution Algorithms: Backward Induction, Value Iteration and Policy Iteration

Designing Response Adaptive Clinical Trials with Markov Decision Problems

Target Groups

Researchers and students in the fields of mathematics and statistics

Professionals in the pharmaceutical industry

>The Author

Thomas Ondra obtained his Master of Science degree in mathematics at University of Vienna. He is a research assistant and PhD student at the Section for Medical Statistics of Medical University of Vienna.

[Download to continue reading...](#)

Optimized Response-Adaptive Clinical Trials: Sequential Treatment Allocation Based on Markov Decision Problems (BestMasters)

Markov Models: Understanding Data Science, Markov Models, and Unsupervised Machine Learning in Python

Markov Models: An Introduction to Markov Models

Go Mobile: Location-Based Marketing, Apps, Mobile Optimized Ad Campaigns, 2D Codes and Other Mobile Strategies to Grow Your Business

IntAR, Interventions Adaptive Reuse, Volume 03; Adaptive Reuse in Emerging Economies

Prostate Problems Home Remedies, How To Fight Prostate Problems At Home, Get Rid Of Prostate Problems Fast!: Back On Track - Fighting Prostate Problems At Home

Understanding Voice Problems: A Physiological Perspective for Diagnosis and Treatment (Understanding Voice Problems: Phys Persp/ Diag & Treatment)

Article 2 - Sales (Part 3 of 4)

Allocation of Risk: 2017 Edition

Risk and Asset Allocation (Springer Finance)

Decision Making in Medicine: An Algorithmic Approach, 3e (Clinical Decision Making Series)

Host Response to Biomaterials: The Impact of Host Response on Biomaterial Selection

Robotic Fish iSplash-OPTIMIZE: Optimized Linear Carangiform Swimming Motion (High Speed Robotics. Mechanical engineering and kinematics for maximum velocity robot fish. Book 3)

Democracy in America, Volume I and II (Optimized for Kindle)

The CAPRISA Clinical Trials: HIV Treatment and Prevention

Iatrogenic Effects of Orthodontic Treatment: Decision-Making in Prevention, Diagnosis, and Treatment

Clinical Companion to Medical-Surgical Nursing: Assessment and Management of Clinical Problems, 9e (Lewis, Clinical Companion to Medical-Surgical Nursing: Assessment and Management of C)

Clinical Companion to Medical-Surgical Nursing: Assessment and Management of Clinical Problems, 8e (Lewis, Clinical Companion to Medical-Surgical Nursing: Assessment and Management of C)

Clinical Decision Making and Treatment Planning in Osseointegration

Vladimir Markov and Russian Primitivism: A Charter for the Avant-Garde (Studies in Art Historiography)

Markov Chains and Stochastic Stability (Cambridge Mathematical Library)

[Contact Us](#)

[DMCA](#)

[Privacy](#)

[FAQ & Help](#)