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## CURTIS MARISSA

### A Modern Introduction to Probability and Statistics Springer

This book was written to provide an integrated account of barley, including its cultivation, nature and uses. An attempt has been made to cut across the unjustified and obstructive divisions between pure science, applied science, technology, botany, biochemistry, agronomy, and so on. Limitations of space preclude the use of more illustrative material or references, or even complete accounts of various topics. However sufficient information is given to enable the reader to understand the general principles and to find his or her way readily into the literature to obtain further

information. Emphasis has been placed on general principles rather than details. In becoming familiar with the literature one becomes acquainted with the effects of the cereal or religion, the English language and the development of agriculture and biochemistry. The comparison between 'parallel literatures' is often stimulating also. For example one is forced to conclude that many of the agricultural problems of poor 'seed vigour' would be overcome if seedsmen used the maltsters techniques for breaking dormancy and speeding 'post-harvest maturation'. Barley is the world's fourth most important cereal after wheat, rice, and maize. It is the most widely cultivated, being grown from the equator to 700N (Scandinavia), from the humid regions of Europe and Japan to the Saharan and Asiatic Oases, and from below sea level in Palestine to high up

mountains in the Himalayas, E. Africa and S. America. Some where in the world it is being sown or harvested at every time of the year.

*Embedded System Design* Springer Nature This book is open access under a CC BY 4.0 license. This book defines the new field of "Bioeconomy" as the sustainable and innovative use of biomass and biological knowledge to provide food, feed, industrial products, bioenergy and ecological services. The chapters highlight the importance of bioeconomy-related concepts in public, scientific, and political discourse. Using an interdisciplinary approach, the authors outline the dimensions of the bioeconomy as a means of achieving sustainability. The authors are ideally situated to elaborate on the diverse aspects of the bioeconomy. They have acquired in-depth experience of

interdisciplinary research through the university's focus on "Bioeconomy", its contribution to the Bioeconomy Research Program of the federal state of Baden-Württemberg, and its participation in the German Bioeconomy Council. With the number of bioeconomy-related projects at European universities rising, this book will provide graduate students and researchers with background information on the bioeconomy. It will familiarize scientific readers with bioeconomy-related terms and give scientific background for economists, agronomists and natural scientists alike.

*Automated Machine Learning* Springer Science & Business Media

This Springer Handbook of Metrology and Testing presents the principles of Metrology – the science of measurement – and the methods and techniques of Testing – determining the characteristics of a given product – as they apply to chemical and microstructural analysis, and to the measurement and testing of materials properties and performance, including modelling and simulation. The principal motivation for this Handbook stems from the increasing demands of technology for measurement results that can be used globally. Measurements within a local laboratory or manufacturing facility must be able to be reproduced accurately anywhere in the world. The book integrates knowledge from basic sciences and engineering disciplines, compiled by experts from internationally known metrology and testing institutions, and academe, as well as from industry, and conformity-assessment and accreditation bodies. The Commission of the European Union has expressed this as there is no science without measurements, no quality without testing, and no global markets without standards.

*Bioeconomy* Springer

This third edition, which has been fully updated and now includes improved and extended explanations, is suitable as a core textbook as well as a source book for industry practitioners. It covers traditional approaches for forecasting, lot sizing, determination of safety stocks and reorder points, KANBAN policies and Material Requirements Planning. It also includes recent advances in inventory theory, for example, new techniques for multi-echelon inventory systems and Roundy's 98 percent approximation. The book also considers methods for coordinated replenishments of different items, and various practical issues in connection with industrial implementation. Other topics covered in Inventory Control include: alternative forecasting techniques,

material on different stochastic demand processes and how they can be fitted to empirical data, generalized treatment of single-echelon periodic review systems, capacity constrained lot sizing, short sections on lateral transshipments and on remanufacturing, coordination and contracts. As noted, the explanations have been improved throughout the book and the text also includes problems, with solutions in an appendix.

*An Introduction to Statistical Learning* Springer

This handbook offers the first comprehensive reference guide to the interdisciplinary field of model-based reasoning. It highlights the role of models as mediators between theory and experimentation, and as educational devices, as well as their relevance in testing hypotheses and explanatory functions. The Springer Handbook merges philosophical, cognitive and epistemological perspectives on models with the more practical needs related to the application of this tool across various disciplines and practices. The result is a unique, reliable source of information that guides readers toward an understanding of different aspects of model-based science, such as the theoretical and cognitive nature of models, as well as their practical and logical aspects. The inferential role of models in hypothetical reasoning, abduction and creativity once they are constructed, adopted, and manipulated for different scientific and technological purposes is also discussed. Written by a group of internationally renowned experts in philosophy, the history of science, general epistemology, mathematics, cognitive and computer science, physics and life sciences, as well as engineering, architecture, and economics, this Handbook uses numerous diagrams, schemes and other visual representations to promote a better understanding of the concepts. This also makes it highly accessible to an audience of scholars and students with different scientific backgrounds. All in all, the Springer Handbook of Model-Based Science represents the definitive application-oriented reference guide to the interdisciplinary field of model-based reasoning.

*Proofs from THE BOOK* Springer Science & Business Media

This comprehensive handbook provides an overview of space technology and a holistic understanding of the system-of-systems that is a modern spacecraft. With a foreword by Elon Musk, CEO and CTO of SpaceX, and contributions from globally leading agency experts from NASA, ESA,

JAXA, and CNES, as well as European and North American academics and industrialists, this handbook, as well as giving an interdisciplinary overview, offers, through individual self-contained chapters, more detailed understanding of specific fields, ranging through: · Launch systems, structures, power, thermal, communications, propulsion, and software, to · entry, descent and landing, ground segment, robotics, and data systems, to · technology management, legal and regulatory issues, and project management. This handbook is an equally invaluable asset to those on a career path towards the space industry as it is to those already within the industry.

*Springer Handbook of Lasers and Optics* Springer Nature

An Introduction to Statistical Learning provides an accessible overview of the field of statistical learning, an essential toolset for making sense of the vast and complex data sets that have emerged in fields ranging from biology to finance, marketing, and astrophysics in the past twenty years. This book presents some of the most important modeling and prediction techniques, along with relevant applications. Topics include linear regression, classification, resampling methods, shrinkage approaches, tree-based methods, support vector machines, clustering, deep learning, survival analysis, multiple testing, and more. Color graphics and real-world examples are used to illustrate the methods presented. This book is targeted at statisticians and non-statisticians alike, who wish to use cutting-edge statistical learning techniques to analyze their data. Four of the authors co-wrote *An Introduction to Statistical Learning, With Applications in R (ISLR)*, which has become a mainstay of undergraduate and graduate classrooms worldwide, as well as an important reference book for data scientists. One of the keys to its success was that each chapter contains a tutorial on implementing the analyses and methods presented in the R scientific computing environment. However, in recent years Python has become a popular language for data science, and there has been increasing demand for a Python-based alternative to ISLR. Hence, this book (ISLP) covers the same materials as ISLR but with labs implemented in Python. These labs will be useful both for Python novices, as well as experienced users.

*Springer Handbook of Power Systems* Springer Science & Business Media

Until the late 1980s, information processing was associated with large mainframe computers and huge tape

drives. During the 1990s, this trend shifted toward information processing with personal computers, or PCs. The trend toward miniaturization continues and in the future the majority of information processing systems will be small mobile computers, many of which will be embedded into larger products and interfaced to the physical environment. Hence, these kinds of systems are called embedded systems. Embedded systems together with their physical environment are called cyber-physical systems. Examples include systems such as transportation and fabrication equipment. It is expected that the total market volume of embedded systems will be significantly larger than that of traditional information processing systems such as PCs and mainframes. Embedded systems share a number of common characteristics. For example, they must be dependable, efficient, meet real-time constraints and require customized user interfaces (instead of generic keyboard and mouse interfaces). Therefore, it makes sense to consider common principles of embedded system design. Embedded System Design starts with an introduction into the area and a survey of specification models and languages for embedded and cyber-physical systems. It provides a brief overview of hardware devices used for such systems and presents the essentials of system software for embedded systems, like real-time operating systems. The book also discusses evaluation and validation techniques for embedded systems. Furthermore, the book presents an overview of techniques for mapping applications to execution platforms. Due to the importance of resource efficiency, the book also contains a selected set of optimization techniques for embedded systems, including special compilation techniques. The book closes with a brief survey on testing. Embedded System Design can be used as a text book for courses on embedded systems and as a source which provides pointers to relevant material in the area for PhD students and teachers. It assumes a basic knowledge of information processing hardware and software. Courseware related to this book is available at <http://ls12-www.cs.tu-dortmund.de/~marwedel>.

#### **Data** Springer

The present book is meant as a text for a course on complex analysis at the advanced undergraduate level, or first-year graduate level. Somewhat more material has been included than can be covered at leisure in one term, to give opportunities for the instructor to exercise

his taste, and lead the course in whatever direction strikes his fancy at the time. A large number of routine exercises are included for the more standard portions, and a few harder exercises of striking theoretical interest are also included, but may be omitted in courses addressed to less advanced students. In some sense, I think the classical German prewar texts were the best (Hurwitz-Courant, Knopp, Bieberbach, etc. ) and I would recommend to anyone to look through them. More recent texts have emphasized connections with real analysis, which is important, but at the cost of exhibiting succinctly and clearly what is peculiar about complex analysis: the power series expansion, the uniqueness of analytic continuation, and the calculus of residues. The systematic elementary development of formal and convergent power series was standard fare in the German texts, but only Cartan, in the more recent books, includes this material, which I think is quite essential, e. g. , for differential equations. I have written a short text, exhibiting these features, making it applicable to a wide variety of tastes. The book essentially decomposes into two parts.

#### *Real Analysis* Springer Science & Business Media

This open access book provides a broad context for the understanding of current problems of science and of the different movements aiming to improve the societal impact of science and research. The author offers insights with regard to ideas, old and new, about science, and their historical origins in philosophy and sociology of science, which is of interest to a broad readership. The book shows that scientifically grounded knowledge is required and helpful in understanding intellectual and political positions in various discussions on the grand challenges of our time and how science makes impact on society. The book reveals why interventions that look good or even obvious, are often met with resistance and are hard to realize in practice. Based on a thorough analysis, as well as personal experiences in aids research, university administration and as a science observer, the author provides - while being totally open regarding science's limitations- a realistic narrative about how research is conducted, and how reliable 'objective' knowledge is produced. His idea of science, which draws heavily on American pragmatism, fits in with the global Open Science movement. It is argued that Open Science is a truly and historically unique movement in that it translates the analysis of the problems of

science into major institutional actions of system change in order to improve academic culture and the impact of science, engaging all actors in the field of science and academia.

#### Mobile Edge Computing Springer

According to the great mathematician Paul Erdős, God maintains perfect mathematical proofs in The Book. This book presents the authors candidates for such "perfect proofs," those which contain brilliant ideas, clever connections, and wonderful observations, bringing new insight and surprising perspectives to problems from number theory, geometry, analysis, combinatorics, and graph theory. As a result, this book will be fun reading for anyone with an interest in mathematics.

#### Complex Analysis Springer Nature

This textbook presents a focused and accessible primer on the fundamentals of Java programming, with extensive use of illustrative examples and hands-on exercises. Addressing the need to acquire a good working model of objects in order to avoid possible misconceptions, the text introduces the core concepts of object-oriented programming at any stage, supported by the use of contour diagrams. Each chapter has one or more complete programs to illustrate the various ideas presented, and to help readers learn how to write programs on their own. Chapter summaries and practical exercises also are included to help the reader to review their progress and practice their skills. This substantially updated second edition has been expanded with additional exercises, and includes new material on bit manipulation and parallel processing. Topics and features: Introduces computing concepts in Chapter 0 for new programmers Adds new chapters on bit-manipulation and parallel processing Contains exercises at the end of each chapter with selected answers Supports both text-based and GUI-based Input/Output Objects can be introduced first, last, or intermixed with other material Uses contour diagrams to illustrate objects and recursion Discusses OOP concepts such as overloading, class methods, and inheritance Introduces string variables and illustrates arrays and array processing Discusses files, elementary exception processing, and the basics of Javadoc This concise and easy-to-follow textbook/guide is ideal for students in an introductory programming course. It is also suitable as a self-study guide for both practitioners and academics.

#### Guide to Java Springer Nature

This handbook offers a comprehensive source for electrical power professionals. It

covers all elementary topics related to the design, development, operation and management of power systems, and provides an insight from worldwide key players in the electrical power systems industry. Edited by a renowned leader and expert in Power Systems, the book highlights international professionals' longstanding experiences and addresses the requirements of practitioners but also of newcomers in this field in finding a solution for their problems. The structure of the book follows the physical structure of the power system from the fundamentals through components and equipment to the overall system. In addition the handbook covers certain horizontal matters, for example "Energy fundamentals", "High voltage engineering", and "High current and contact technology" and thus intends to become the major one-stop reference for all issues related to the electrical power system.

**The Science of Citizen Science** Springer Science & Business Media

This text introduces cryptography, from its earliest roots to cryptosystems used today for secure online communication. Beginning with classical ciphers and their cryptanalysis, this book proceeds to focus on modern public key cryptosystems such as Diffie-Hellman, ElGamal, RSA, and elliptic curve cryptography with an analysis of vulnerabilities of these systems and underlying mathematical issues such as factorization algorithms. Specialized topics such as zero knowledge proofs, cryptographic voting, coding theory, and new research are covered in the final section of this book. Aimed at undergraduate students, this book contains a large selection of problems, ranging from straightforward to difficult, and can be used as a textbook for classes as well as self-study. Requiring only a solid grounding in basic mathematics, this book will also appeal to advanced high school students and amateur mathematicians interested in this fascinating and topical subject.

**The NURBS Book** Springer Science & Business Media

This book is published open access under a CC BY 4.0 licence. The book offers a concise guide for librarians, helping them understand the challenges, processes and technologies involved in managing access to online resources. After an introduction the book presents cases of general authentication and authorisation. It helps readers understand web based authentication and provides the fundamentals of IP address recognition in an easy to understand manner. A special

chapter is dedicated to Security Assertion Markup Language (SAML), followed by an overview of the key concepts of OpenID Connect. The book concludes with basic troubleshooting guidelines and recommendations for further assistance. Librarians will benefit from this quick and easy read, which demystifies the technologies used, features real-life scenarios, and explains how to competently employ authentication and access management.

**Open Science: the Very Idea** Springer Science & Business Media

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Origin and Evolution, Terms and Concepts 1. 1. INTRODUCTION We start this book with Theme A (see Figure P. I in the Preface), which aims to develop an essential and fundamental understanding of systems science. So, what is systems science? When asked to explain what systems science is all about, many systems scientists are confronted with a rather daunting task. The discipline tends to be presented and understood in a fragmented way and very few people hold an overview understanding of the subject matter, while also having sufficient in-depth competence in many and broad-ranging subject areas where the ideas are used. Indeed, it was precisely this difficulty that identified the need for a comprehensive well-documented account such as is presented here in *Dealing with Complexity*.

*Springer Handbook of Medical Technology* Springer

The book combines information about the behaviour that allowed ruminants to survive and to evolve on Earth: the rumen. Furthermore, the reader will find aspects involving rumen anatomy, physiology, microbiology, fermentation, metabolism, manipulation, kinetics and modeling. Thus, the book was not only organized to help students involved in areas such as ruminant nutrition and ruminant production but collegians gathering material for teaching practices.

*New Horizons for a Data-Driven Economy* Springer

This is a text for a one-quarter or one-semester course in probability, aimed at students who have done a year of calculus. The book is organised so a student can learn the fundamental ideas of probability from the first three chapters without reliance on calculus. Later chapters develop these ideas further using calculus tools. The book contains more than the usual number of examples worked out in detail. The most valuable thing for students to learn from a course like this is how to pick up a probability problem in a new setting and relate it to the standard body of theory. The more they see this happen in class, and the more they do it themselves in exercises, the better. The style of the text is deliberately informal. My experience is that students learn more from intuitive explanations, diagrams, and examples than they do from theorems and proofs. So the emphasis is on problem solving rather than theory.

Access to Online Resources Springer

Rebecca Ruter Springer (1832–1904) was an American author. Springer began writing and publishing verses at a young age, and wrote for a number of notable publications during her adulthood. In her most notable work, "Intra Muros"—better known today as "My Dream of Heaven"—Springer recounts a vision of the Christian heaven that she had while offering her own insights into its nature and meaning. This vintage book is highly recommended for those with an interest in Christian mysticism and would make for a worthy addition to collections of related literature.

**The International Handbook of Space Technology** Springer Science & Business Media

The Springer Handbook of Spacetime is dedicated to the ground-breaking paradigm shifts embodied in the two relativity theories, and describes in detail the profound reshaping of physical sciences they ushered in. It includes in a single volume chapters on foundations, on the underlying mathematics, on physical and astrophysical implications, experimental evidence and cosmological predictions, as well as chapters on efforts to unify general relativity and quantum physics. The Handbook can be used as a desk reference by researchers in a wide variety of fields, not only by specialists in relativity but also by researchers in related areas that either grew out of, or are deeply influenced by, the two relativity theories: cosmology, astronomy and astrophysics, high energy physics, quantum field theory, mathematics, and philosophy of science. It should also serve

as a valuable resource for graduate students and young researchers entering these areas, and for instructors who teach courses on these subjects. The Handbook

is divided into six parts. Part A: Introduction to Spacetime Structure. Part B: Foundational Issues. Part C: Spacetime Structure and Mathematics. Part D:

Confronting Relativity theories with observations. Part E: General relativity and the universe. Part F: Spacetime beyond Einstein.