

Canon S5is User Guide

A pioneering treatise presenting how the mathematical techniques of holographic duality can unify the fundamental theories of physics.

A comprehensive overview of holographic methods in quantum matter, written by pioneers in the field. This book, written by pioneers in the field, offers a comprehensive overview of holographic methods in quantum matter. It covers influential developments in theoretical physics, making the key concepts accessible to researchers and students in both high energy and condensed matter physics. The book provides a unique combination of theoretical and historical context, technical results, extensive references to the literature, and exercises. It will give readers the ability to understand the important problems in the field, both those that have been solved and those that remain unsolved, and will enable them to engage directly with the current literature. The book describes a particular interface between condensed matter physics, gravitational physics, and string and quantum field theory made possible by holographic duality. The chapters cover such topics as the essential workings of the holographic correspondence; strongly interacting quantum matter at a fixed commensurate density; compressible quantum matter with a variable density; transport in quantum matter; the holographic description of symmetry broken phases; and the relevance of the topics covered to experimental challenges in specific quantum materials. Holographic Quantum Matter promises to be the definitive presentation of this material.

Examines chivalry in the context of the Middle Ages

The amount of algebraic topology a graduate student specializing in topology must learn can be intimidating. Moreover, by their second year of graduate studies, students must make the transition from understanding simple proofs line-by-line to understanding the overall structure of proofs of difficult theorems. To help students make this transition, the material in this book is presented in an increasingly sophisticated manner. It is intended to bridge the gap between algebraic and geometric topology, both by providing the algebraic tools that a geometric topologist needs and by concentrating on those areas of algebraic topology that are geometrically motivated. Prerequisites for using this book include basic set-theoretic topology, the definition of CW-complexes, some knowledge of the fundamental group/covering space theory, and the construction of singular homology. Most of this material is briefly reviewed at the beginning of the book. The topics discussed by the authors include typical material for first- and second-year graduate courses. The core of the exposition consists of chapters on homotopy groups and on spectral sequences. There is also material that would interest students of geometric topology (homology with local coefficients and obstruction theory) and algebraic topology (spectra and generalized homology), as well as preparation for more advanced topics such as algebraic K&S-theory and the s-cobordism theorem. A unique feature of the book is the inclusion, at the end of each chapter, of several projects that require students to present proofs of substantial theorems and to write notes accompanying their explanations. Working on these projects allows students to grapple with the ‘‘big picture’’, teaches them how to give mathematical lectures, and prepares them for participating in research seminars. The book is designed as a textbook for graduate students studying algebraic and geometric topology and homology theory. It will also be useful for students from other fields such as differential geometry, algebraic geometry, and homological algebra. The exposition in the text is clear; special cases are presented over complex general statements.

Logical Pluralism

Introduction to Logic

Into Your Darkroom Step-by-step

Consumer Reports Buying Guide

A Bestiary for Physicists

Introduction to Algebra

Immersing students in Java and the Java Virtual Machine (JVM), Introduction to Compiler Construction in a Java World enables a deep understanding of the Java programming language and its implementation. The text focuses on design, organization, and testing, helping students learn good software engineering skills and become better programmers. The book covers all of the standard compiler topics, including lexical analysis, parsing, abstract syntax trees, semantic analysis, code generation, and register allocation. The authors also demonstrate how JVM code can be translated to a register machine, specifically the MIPS architecture. In addition, they discuss recent strategies, such as just-in-time compiling and hotspot compiling, and present an overview of leading commercial compilers. Each chapter includes a mix of written exercises and programming projects. By working with and extending a real, functional compiler, students develop a hands-on appreciation of how compilers work, how to write compilers, and how the Java language behaves. They also get invaluable practice working with a non-trivial Java program of more than 30,000 lines of code. Fully documented Java code for the compiler is accessible at http://www.cs.umb.edu/~r-

Supergravity, together with string theory, is one of the most significant developments in theoretical physics. Written by two of the most respected workers in the field, this is the first-ever authoritative and systematic account of supergravity. The book starts by reviewing aspects of relativistic field theory in Minkowski spacetime. After introducing the relevant ingredients of differential geometry and gravity, some basic supergravity theories (D=4 and D=11) and the main gauge theory tools are explained. In the second half of the book, complex geometry and N=1 and N=2 supergravity theories are covered. Classical solutions and a chapter on ADS/CFT complete the book. Numerous exercises and examples make it ideal for Ph.D. students, and with applications to model building, cosmology and solutions of supergravity theories, it is also invaluable to researchers. A website hosted by the authors, featuring solutions to some exercises and additional reading material, can be found at www.cambridge.org/supergravity.

Fifty years ago, A. Turing predicted that by 2000 we would have a machine that could pass the Turing test. Although this may not yet be true, AI has advanced significantly in these 50 years, and at the dawn of the XXI century is still an active and challenging field. This year marks the 50th anniversary of the founding of the Mexican National AI Conference (RNIA) and the International AI Symposium (ISA), organized annually by the Mexican Society for AI (SMIA, since 1984) and by the Monterrey Institute of Technology (ITESM, since 1988), respectively. The first Mexican International Conference on Artificial Intelligence, MICA I 2000, took place April 11-14, 2000, in the city of Acapulco, Mexico. This conference seeks to promote research in AI, and cooperation among Mexican researchers and their peers worldwide. We welcome you all. Over 163 papers from 17 different countries were submitted for consideration to MICA I 2000. After reviewing them thoroughly, MICA I's program committee, referees, and program chair accepted 60 papers for the international track. This volume contains the written version of the papers and invited talks presented at MICA I. We would like to acknowledge the support of the American Association for Artificial Intelligence (AAAI), and the International Joint Conference on Artificial Intelligence (IJCAI). We are specially grateful for the warm hospitality and generosity offered by the Acapulco Institute of Technology.

**This Festschrift volume, published in honor of Michael Gelfond on the occasion of his 65th birthday, contains a collection of papers written by his closest friends and colleagues. Several of these papers were presented during the Symposium on Constructive Mathematics in Computer Science, held in Lexington, KY, USA on October 25-26, 2010. The 27 scientific papers included in the book focus on answer set programming. The papers are organized in sections named ‘‘Foundations: ASP and Theories of LP, KR, and NMR’’, ‘‘ASP and Dynamic Domains’’, and ‘‘ASP - Applications and Tools’’.
Raspberry Pi Hacks**

Essays Dedicated to Michael Gelfond on the Occasion of His 65th Birthday

Approaches to Quantum Gravity

Consumer Reports Buying Guide 2008

Holographic Duality in Condensed Matter Physics

Vibration Engineering and Technology of Machinery

In this charming volume, a noted English mathematician uses humor and anecdote to illuminate the concepts of groups, sets, subsets, topology, Boolean algebra, and other mathematical subjects. 200 illustrations.

Canon PowerShot Digital Field GuideJohn Wiley & Sons

This volume gathers the latest advances, innovations and applications in the field of vibration and technology of machinery, as presented by leading international researchers and engineers at the XV International Conference on Vibration Engineering and Technology of Machinery (VETOMAC), held in Curitiba, Brazil on November 10-15, 2019. Topics include concepts and methods in dynamics, dynamics of mechanical and structural systems, dynamics and control, condition monitoring, machinery and structural dynamics, rotor dynamics, experimental techniques, finite element model updating, industrial case studies, vibration control and energy harvesting, and MEMS. The contributions, which were selected through a rigorous international peer-review process, share exciting ideas that will spur novel research directions and foster new multidisciplinary collaborations.

Introductory logic is generally taught as a straightforward technical discipline. In this book, John MacFarlane helps the reader think about the limitations of, and alternatives to classical first-order predicate logic, making this an ideal introduction to philosophical logic for any student who already has completed an introductory logic course. The book explores the following questions. Are there quantificational idioms that cannot be expressed with the familiar universal and existential quantifiers? How can logic be extended to capture modal notions like necessity and obligation? Does the material conditional adequately capture the meaning of ‘‘if—and if not, what are the alternatives? Should logical consequence be understood in terms of models or in terms of proofs? Can one intelligibly question the validity of basic logical principles like Modus Ponens or Double Negation Elimination? Is the fact that classical logic validates the inference from a contradiction to anything a flaw, and if so, how can logic be modified to repair it? How, exactly, is logic related to reasoning? Must classical logic be revised in order to be applied to vague language, and if so how? Each chapter is organized around suggested readings and includes exercises designed to deepen the reader's understanding. Key Features: An integrated treatment of the technical and philosophical issues comprising philosophical logic Designed to serve students taking only one course in logic beyond the introductory level Provides tools and concepts necessary to understand work in many areas of analytic philosophy Includes exercises, suggested readings, and suggestions for further exploration in each chapter

MICA I 2000: Advances in Artificial Intelligence

The Realism-Antirealism Debate in the Age of Alternative Logics

Best Buys for 2008

The British Journal of Photography

Mexican International Conference on Artificial Intelligence Acapulco, Mexico, April 11-14, 2000 Proceedings

Tips & Tools for Making Things with the Inexpensive Linux Computer

This is the second edition of Wil van der Aalst ' s seminal book on process mining, which now discusses the field also in the broader context of data science and big data approaches. It includes several additions and updates, e.g. on inductive mining techniques, the notion of alignments, a considerably expanded section on software tools and a completely new chapter of process mining in the large. It is self-contained, while at the same time covering the entire process-mining spectrum from process discovery to predictive analytics. After a general introduction to data science and process mining in Part I, Part II provides the basis of business process modeling and data mining necessary to understand the remainder of the book. Next, Part III focuses on process discovery as the most important process mining task, while Part IV moves beyond discovering the control flow of processes, highlighting conformance checking, and organizational and time perspectives. Part V offers a guide to successfully applying process mining in practice, including an introduction to the widely used open-source tool ProM and several commercial products. Lastly, Part VI takes a step back, reflecting on the material presented and the key open challenges. Overall, this book provides a comprehensive overview of the state of the art in process mining. It is intended for business process analysts, business consultants, process managers, graduate students, and BPM researchers.

A guide explaining how to use your Canon PowerShot S5 IS camera’s controls to get more effective, interesting, and creative photos.

A consumer guide integrates shopping suggestions and handy user tips as it describes and rates dozens of digital electronic products, including cell phones, digital cameras, televisions, computers, and home theater products.

Provides information on equipment, setting up a darkroom, developing negatives, making proof sheets and enlargements, and special techniques for fine prints

A History of Set Theory and Its Role in Modern Mathematics

Fortune

Source Theory and Its Applications

The Calabi – Yau Landscape

Chivalry

Data Science in Action

This Second Edition of a classic algebra text includes updated and comprehensive introductory chapters, new material on axiom of Choice, p-groups and local rings, discussion of theory and applications, and over 300 exercises. It is an ideal introductory text for all Year 1 and 2 undergraduate students in mathematics.

Introduction to Logic combines likely the broadest scope of any logic textbook available with clear, concise writing and interesting examples and arguments. Its key features, all retained in the Second Edition, include: • simpler ways to test arguments than those available in competing textbooks, including the star test for syllogisms • a wide scope of materials, making it suitable for introductory logic courses (as the primary text) or intermediate classes (as the primary or supplementary book) • engaging and easy-to-understand examples and arguments, drawn from everyday life as well as from the great philosophers • a suitability for self-study and for preparation for standardized tests, like the LSAT • a reasonable price (a third of the cost of many competitors) • exercises that correspond to the LogicCola program, which may be downloaded for free from the web. This Second Edition also: • arranges chapters in a more useful way for students, starting with the easiest material and then gradually increasing in difficulty • provides an even broader scope with new chapters on the history of logic, deviant logic, and the philosophy of logic • expands the section on informal fallacies • includes a more exhaustive index and a new appendix on suggested further readings • updates the LogicCola instructional program, which is now more visually attractive as well as easier to download, install, update, and use.

Containing contributions from leading researchers in this field, this book provides a complete overview of this field from the frontiers of theoretical physics research for graduate students and researchers. It introduces the most current approaches to this problem, and reviews their main achievements.

This text describes the functions that the BIOS controls and how these relate to the hardware in a PC. It covers the CMOS and chipset set-up options found in most common modern BIOSs. It also features tables listing error codes needed to troubleshoot problems caused by the BIOS.

Canon PowerShot Digital Field Guide

Introduction to Compiler Construction in a Java World

Labyrinth of Thought

Proceedings of VETOMAC XV 2019

From Geometry, to Physics, to Machine Learning

Popular Photography

‘‘Jose Ferreirós has written a magisterial account of the history of set theory which is panoramic, balanced, and engaging. Not only does this book synthesize much previous work and provide fresh insights and points of view, but it also features a major innovation, a full-fledged treatment of the emergence of the set-theoretic approach in mathematics from the early nineteenth century. This takes up Part One of the book. Part Two analyzes the crucial developments in the last quarter of the nineteenth century, above all the work of Cantor, but also Dedekind and the interaction between the two. Lastly, Part Three details the development of set theory up to 1950, taking account of foundational questions and the emergence of the modern axiomatization.’’** (Bulletin of Symbolic Logic)* ***With this book and your Canon PowerShot, taking pictures becomes a lot more fun! The Quick Tour gets you familiar with all the settings and menus on your G, S, TX, A, or SD-series camera, so you can start shooting. Then spend some time exploring tips for getting super shots in dozens of situations, using manual settings for greater control, and telling a story with your photos. Finally, learn the best ways to download, edit, and print your pictures. The economic outlook remains clouded by regional and domestic security concerns. Real GDP growth and inflation were broadly in line with program projections in 2001-02. The balance of payments position unproved faster than expected. The budget deficit target for 2001-02 (as set during the first review) was met, despite a shortfall in the Central Board of Revenue (CBR). Broad money increased strongly in 2001-02, despite efforts to sterilize foreign exchange inflows. Reforms in the financial sector made significant progress.

Calabi-Yau spaces are complex spaces with a vanishing first Chern class, or equivalently, with trivial canonical bundle (canonical class). They are used to construct possibly realistic (super)string models and are thus being studied vigorously in the recent physics literature. In the main part of the Book, collected and reviewed are relevant results on (1) several major techniques of constructing such spaces and (2) computation of physically relevant quantities such as massless field spectra and their Yukawa interactions. Issues of (3) stringy corrections and (4) moduli space and its geometry are still in the stage of rapid and continuing development, whence there is more emphasis on open problems here. Also is included a preliminary discussion of the conjectured universal moduli space and related open problems. Finally, several detailed models and sample computations are included throughout the Book to exemplify the techniques and the general discussion. The Book also contains a Lexicon (28 pages) of 150 assorted terms, key-words and main results and theorems, well suited for a handy reference. Although cross-referenced with the main part of the Book, the Lexicon can also be used independently. The level of mathematics is guided and developed between that of the popular Physics Reports of Eguchi, Gilkey and Hanson and the book Superstrings (Vol. 2) by Green, Schwarz and Witten on one end and Principles of Algebraic Geometry of Griffiths and Harris on the other. This is the first systematic exposition in book form of the material on Calabi-Yau spaces, related mathematics and the physics application, otherwise scattered through research articles in journals and conference proceedings.

A Short Course in Canon PowerShot S5 IS Photography

Electronics Buying Guide 2008

Mac Life

Calabi-Yau Manifolds

Process Mining

Lecture Notes in Algebraic Topology

Rates consumer products from stereos to food processors

Consequence is at the heart of logic, and an account of consequence offers a vital tool in the evaluation of arguments. This text presents what the authors term as 'logical pluralism' arguing that the notion of logical consequence doesn't pin down one deductive consequence relation; it allows for many of them.

With more than 60 practical and creative hacks, this book helps you turn Raspberry Pi into the centerpiece of some cool electronics projects. Want to create a controller for a camera or a robot? Set up Linux distributions for media centers or PBX phone systems? That's just the beginning of what you'll find inside Raspberry Pi Hacks. If you're looking to build either a software or hardware project with more computing power than Arduino alone can provide, Raspberry Pi is just the ticket. And the hacks in this book will give you lots of great ideas. Use configuration hacks to get more out of your Pi Build your own web server or remote print server Take the Pi outdoors to monitor your garden or control holiday lights Connect with SETI or construct an awesome Halloween costume Hack the Pi's Linux OS to support more complex projects Decode audio/video formats or make your own music player Achieve a low-weight payload for aerial photography Build a Pi computer cluster or a solar-powered lab

Can artificial intelligence learn mathematics? The question is at the heart of this original monograph bringing together theoretical physics, modern geometry, and data science. The study of Calabi-Yau manifolds lies at an exciting intersection between physics and mathematics. Recently, there has been much activity in applying machine learning to solve otherwise intractable problems, to conjecture new formulae, or to understand the underlying structure of mathematics. In this book, insights from string and quantum field theory are combined with powerful techniques from complex and algebraic geometry, then translated into algorithms with the ultimate aim of deriving new information about Calabi-Yau manifolds. While the motivation comes from mathematical physics, the techniques are purely mathematical and the theme is that of explicit calculations. The reader is guided through the theory and provided with explicit computer code in standard software such as SageMath, Python and Mathematica to gain hands-on experience in applications of artificial intelligence to geometry. Driven by data and written in an informal style, The Calabi-Yau Landscape makes cutting-edge topics in mathematical physics, geometry and machine learning readily accessible to graduate students and beyond. The overriding ambition is to introduce some modern mathematics to the physicist, some modern physics to the mathematician, and machine learning to both.

Holographic Quantum Matter

Logic Programming, Knowledge Representation, and Nonmonotonic Reasoning

Mathematical Excursions to the World's Great Buildings

Philosophical Logic

Philosophy of Mathematics

Thoughts and Ways of Thinking

Supergravity

Mathematical Excursions to the World's Great Buildings

Philosophical Logic

Philosophy of Mathematics

Thoughts and Ways of Thinking

Do numbers, sets, and so forth, exist? What do mathematical statements mean? Are they literally true or false, or do they lack truth values altogether? Addressing questions that have attracted lively debate in recent years, Stewart Shapiro contends that standard realist and antirealist accounts of mathematics are both problematic. As Benacerraf first noted, we are confronted with the following powerful dilemma. The desired continuity between mathematical and, say, scientific language suggests realism, but realism in this context suggests seemingly intractable epistemic problems. As a way out of this dilemma, Shapiro articulates a structuralist approach. On this view, the subject matter of arithmetic, for example, is not a fixed domain of numbers independent of each other, but rather is the natural number structure, the pattern common to any system of objects that has an initial object and successor relation satisfying the induction principle. Using this framework, realism in mathematics can be preserved without troublesome epistemic consequences. Shapiro concludes by showing how a structuralist approach can be applied to wider philosophical questions such as the nature of an ‘object’ and the Quinean nature of ontological commitment. Clear, compelling, and tautly argued, Shapiro’s work, noteworthy both in its attempt to develop a full-length structuralist approach to mathematics and to trace its emergence in the history of mathematics, will be of deep interest to both philosophers and mathematicians.

The relation between logic and knowledge has been at the heart of a lively debate since the 1960s. On the one hand, the epistemic approaches based their formal arguments in the mathematics of Brouwer and intuitionistic logic. Following Michael Dummett, they started to call themselves ‘antirealists.’ Others persisted with the formal background of the Frege-Tarski tradition, where Cantorian set theory is linked via model theory to classical logic. Jaakko Hintikka tried to unify both traditions by means of what is now known as ‘explicit epistemic logic.’ Under this view, epistemic contents are introduced into the object language as operators yielding propositions from propositions, rather than as meta-logical constraints on the notion of inference. The Realism-Antirealism debate has thus had three players: classical logicians, intuitionists and explicit epistemic logicians. The editors of the present volume believe that in the age of Alternative Logics, where manifold developments in logic happen at a breathtaking pace, this debate should be revisited. Contributors to this volume happily took on this challenge and responded with new approaches to the debate from both the explicit and the implicit epistemic point of view.

How mathematics helped build the world's most important buildings from early Egypt to the present From the pyramids and the Parthenon to the Sydney Opera House and the Bilbao Guggenheim, this book takes readers on an eye-opening tour of the mathematics behind some of the world's most spectacular buildings. Beautifully illustrated, the book explores the milestones in elementary mathematics that enliven the understanding of these buildings and combines this with an in-depth look at their aesthetics, history, and structure. Whether using trigonometry and vectors to explain why Gothic arches are structurally superior to Roman arches, or showing how simple ruler and compass constructions can produce sophisticated architectural details, Alexander Hahn describes the points at which elementary mathematics and architecture intersect. Beginning in prehistoric times, Hahn proceeds to guide readers through the Greek, Roman, Islamic, Romanesque, Gothic, Renaissance, and modern styles. He explores the unique features of the Pantheon, the Hagia Sophia, the Great Mosque of Cordoba, the Duomo in Florence, Palladio's villas, and Saint Peter's Basilica, as well as the U. S. Capitol Building. Hahn celebrates the forms and structures of architecture made possible by mathematical achievements from Greek geometry, the Hindu-Arabic number system, two- and three-dimensional coordinate geometry, and calculus. Along the way, Hahn introduces groundbreaking architects, including Brunelleschi, Alberti, da Vinci, Bramante, Michelangelo, della Porta, Wren, Gaudi, Saarinen, Utzon, and Gehry. Rich in detail, this book takes readers on an expedition around the globe, providing a deeper understanding of the mathematical forces at play in the world's most elegant buildings.

MacLife is the ultimate magazine about all things Apple. It's authoritative, ahead of the curve and endlessly entertaining. MacLife provides unique content that helps readers use their Macs, iPhones, iPods, and their related hardware and software in every facet of their personal and professional lives.

PC World

Philosophy of Mathematics

Thoughts and Ways of Thinking

Supergravity

Mathematical Excursions to the World's Great Buildings

Philosophical Logic

Why do we think differently from one another? Why do religious people adhere to their faith even against reason, whilst atheist thinkers label it ‘nonsense’? Why do some judges turn more to moral values and others less? Why do we attach different meanings to the same words? These questions can be tackled on psychological or sociological levels, but we can also analyze the subjects on the epistemological level. That is the purpose of this book. Thoughts and Ways of Thinking offers Source Theory as a single explanation for epistemic processes and their religious, legal and linguistic derivatives. The idea is simple: our senses, our understanding, our memory, the testimonies that we trust, and many other objects transmit data to us and so shape our beliefs. In this function they serve as our truth sources. Different beliefs stem from different sources or different hierarchies between same sources. This notion is formalized here through the new tool of Source Calculus, and, after balancing its relativistic consequences by adding pragmatic constraints, it is applied to the philosophies of religion, law and language. With this unified theory, old doubts are framed in new perspectives, and some of them even find their solution.

Staff Report for the 2002 Article IV Consultation, Third Review Under the Poverty Reduction and Growth Facility Arrangement, and Request for Waivers of Performance Criteria

The Jack-pine Warbler

Toward a New Understanding of Space, Time and Matter

Electronics Buying Guide

A Contemporary Introduction

The Bios Companion