Loss Models From Data Decisions | e60e994381f25b7cc3e2d7f90ec61065

Drinking from the Fire HoseStrategic DecisionsLoss Models, Solutions ManualLoss ModelsRegression Modeling with Actuarial and Financial ApplicationsStudent Solutions Manual to Accompany Loss ModelsGeneralized Linear Models for Insurance RatingInforming an Effective Response to Climate ChangeDeep Learning with PythonReal Options AnalysisMachine Learning with RFundamentals of Machine Learning for Predictive Data Analytics, second editionMachine LearningExposure of the American People to Iodine-131 from Nevada Nuclear-Bomb TestsLoss ModelsStudent Solutions Manual to Accompany Loss Models: From Data to DecisionsDiscrete Choice Methods with SimulationBetter Business Decisions Using Cost Modeling, Second EditionHead First StatisticsLearner-Centered TeachingLoss Models, Textbook and Solutions ManualStudent Solutions Manual to Accompany Loss Models: From Data to Decisions, Fourth EditionModern Actuarial Theory and PracticeLoss ModelsLoss ModelsNonlife Actuarial ModelsLoss ModelsLoss ModelsStudent Solutions Manual to Accompany Loss Models: From Data to Decisions, Fourth EditionBehind Every Good DecisionDecisiveEnvironmental Decisions in the Face of UncertaintyIntroduction to ProbabilitySuper ThinkingTeacher Evaluation and Student AchievementSolutions Manual for Actuarial Mathematics for Life Contingent RisksLoss Models, Solutions Manual + ExamPrep (Online) Wrapper SetLoss ModelsActuarial MathematicsThe Startup Owner's Manual

A guide that provides in-depth coverage of modeling techniques used throughout many branches of actuarial science, revised and updated Now in its fifth edition, Loss Models: From Data to Decisions puts the focus on material tested in the Society of Actuaries (SOA) newly revised Exams STAM (Short-Term Actuarial Mathematics) and LTAM (Long-Term Actuarial Mathematics). Updated to reflect these exam changes, this vital resource offers actuaries, and those aspiring to the profession, a practical approach to the concepts and techniques needed to succeed in the profession. The techniques are also valuable for anyone who uses loss data to build models for assessing risks of any kind. Loss Models contains a wealth of examples that highlight the real-world applications of the concepts presented, and puts the emphasis on calculations and spreadsheet implementation. With a focus on the loss process, the book reviews the essential quantitative techniques such as random variables, basic distributional quantities, and the recursive method, and discusses techniques for classifying and creating distributions. Parametric, non-parametric, and Bayesian estimation methods are thoroughly covered. In addition, the authors offer practical advice for choosing an appropriate model. This important text: • Presents a revised and updated edition of the classic guide for actuaries that aligns with newly introduced Exams STAM and LTAM • Contains a wealth of exercises taken from previous exams • Includes fresh and additional content related to the material required by the Society of Actuaries (SOA) and the Canadian Institute of Actuaries (CIA) • Offers a solutions manual available for further insight, and all the data sets and supplemental material are posted on a companion site Written for students and aspiring actuaries who are preparing to take the SOA examinations, Loss Models offers an essential guide to the concepts and techniques of actuarial science.An essential resource for constructing and analyzing advanced actuarial models Loss Models: Further Topics presents extended coverage of modeling through the use of tools related to risk theory, loss distributions, and survival models. The book uses these methods to construct and evaluate actuarial models in the fields of insurance and business. Providing an advanced study of actuarial methods, the book features extended discussions of risk modeling and risk measures, including Tail-Value-at-Risk. Loss Models: Further Topics contains additional material to accompany the Fourth Edition of Loss Models: From Data to Decisions, such as: Extreme value distributions Coxian and related distributions Mixed Erlang distributions Computational and analytical methods for aggregate claim models Counting processes Compound distributions with time-dependent claim amounts Copula models Continuous time ruin models Interpolation and smoothing The book is an essential reference for practicing actuaries and actuarial researchers who want to go beyond the material required for actuarial qualification. Loss Models: Further Topics is also an excellent resource for graduate students in the actuarial field.This book describes the new generation of discrete choice methods, focusing on the many advances that are made possible by simulation. Researchers use these statistical methods to examine the choices that consumers, households, firms, and other agents make. Each of the major models is covered: logit, generalized extreme value, or GEV (including nested and cross-nested logits), probit, and mixed logit, plus a variety of specifications that build on these basics. Simulation-assisted estimation procedures are investigated and compared, including maximum stimulated likelihood, method of simulated moments, and method of simulated scores. Procedures for drawing from densities are described, including variance reduction techniques such as anithetics and Halton draws. Recent advances in Bayesian procedures are explored, including the use of the Metropolis-Hastings algorithm and its variant Gibbs sampling. The second edition adds chapters on endogeneity and expectation-maximization (EM) algorithms. No other book incorporates all these fields, which have arisen in the past 25 years. The procedures are applicable in many fields, including energy, transportation, environmental studies, health, labor, and marketing.In the years since the publication of the best-selling first edition, the incorporation of ideas and theories from the rapidly growing field of financial economics has precipitated considerable development of thinking in the actuarial profession. Modern Actuarial Theory and Practice, Second Edition integrates those changes and presents an up-to-date, comprehensive overview of UK and international actuarial theory, practice and modeling. It describes all of the traditional areas of actuarial activity, but in a manner that highlights the fundamental principles of actuarial theory and practice as well as their economic, financial, and statistical foundations.Developed from celebrated Harvard statistics lectures, Introduction to Probability provides essential language and tools for understanding statistics, randomness, and uncertainty. The book explores a wide variety of applications and examples, ranging from coincidences and paradoxes to Google PageRank and Markov chain Monte Carlo (MCMC). AdditionalMore than 100,000 entrepreneurs rely on this book for detailed, step-by-step instructions on building successful, scalable, profitable startups. The National Science Foundation pays hundreds of startup teams each year to follow the process outlined in the book, and it's taught at Stanford, Berkeley, Columbia and more than 100 other leading universities worldwide. Why? The Startup Owner's Manual guides you, step-by-step, as you put the Customer Development process to work. This method was created by renowned Silicon Valley startup expert Steve Blank, co-creator with Eric Ries of the "Lean Startup" movement and tested and refined by him for more than a decade. This 608-page how-to guide includes over 100 charts, graphs, and diagrams, plus 77 valuable checklists that guide you as you drive your company toward profitability. It will help you: • Avoid the 9 deadly sins that destroy startups' chances for success • Use the Customer Development method to bring your business idea to life • Incorporate the Business Model Canvas as the organizing principle for startup hypotheses • Identify your customers and determine how to "get, keep and grow" customers profitably • Compute how you'll drive your startup to repeatable, scalable profits. The Startup Owner's Manual was originally published by K&S Ranch Publishing Inc. and is now available from Wiley. The cover, design, and content are the same as the prior release and should not be considered a new or updated product.An update of one of the most trusted books on constructing and analyzing actuarial models Written by three

renowned authorities in the actuarial field, Loss Models, Third Edition upholds the reputation for excellence that has made this book required reading for the Society of Actuaries (SOA) and Casualty Actuarial Society (CAS) qualification examinations. This update serves as a complete presentation of statistical methods for measuring risk and building models to measure loss in real-world events. This book maintains an approach to modeling and forecasting that utilizes tools related to risk theory, loss distributions, and survival models. Random variables, basic distributional quantities, the recursive method, and techniques for classifying and creating distributions are also discussed. Both parametric and non-parametric estimation methods are thoroughly covered along with advice for choosing an appropriate model. Features of the Third Edition include: Extended discussion of risk management and risk measures, including Tail-Value-at-Risk (TVaR) New sections on extreme value distributions and their estimation Inclusion of homogeneous, nonhomogeneous, and mixed Poisson processes Expanded coverage of copula models and their estimation Additional treatment of methods for constructing confidence regions when there is more than one parameter The book continues to distinguish itself by providing over 400 exercises that have appeared on previous SOA and CAS examinations. Intriguing examples from the fields of insurance and business are discussed throughout, and all data sets are available on the book's FTP site, along with programs that assist with conducting loss model analysis. Loss Models, Third Edition is an essential resource for students and aspiring actuaries who are preparing to take the SOA and CAS preliminary examinations. It is also a must-have reference for professional actuaries, graduate students in the actuarial field, and anyone who works with loss and risk models in their everyday work. To explore our additional offerings in actuarial exam preparation visit www.wiley.com/go/actuarialexamprep.Loss Models: From Data to Decisions, Fifth Edition continues to supply actuaries with a practical approach to the key concepts and techniques needed on the job. With updated material and extensive examples, the book successfully provides the essential methods for using available data to construct models for the frequency and severity of future adverse outcomes. The book continues to equip readers with the tools needed for the construction and analysis of mathematical models that describe the process by which funds flow into and out of an insurance system. Focusing on the loss process, the authors explore key quantitative techniques including random variables, basic distributional quantities, and the recursive method, and discuss techniques for classifying and creating distributions. Parametric, non-parametric, and Bayesian estimation methods are thoroughly covered along with advice for choosing an appropriate model. Throughout the book, numerous examples showcase the real-world applications of the presented concepts, with an emphasis on calculations and spreadsheet implementation. Loss Models: From Data to Decisions, Fifth Edition is an indispensable resource for students and aspiring actuaries who are preparing to take the SOA and CAS examinations. The book is also a valuable reference for professional actuaries, actuarial students, and anyone who works with loss and risk models.So you’re not a numbers person? No worries! You say that you can’t understand how to read, let alone implement, these complex software programs that crunch all the data and spit out . . . more data? Not a problem either! There is a costly misconception in business today--that the only data that matters is BIG data, and that elaborate tools and data scientists are required to extract any practical information. But actually, nothing could be further from the truth.In Behind Every Good Decision, authors and analytics experts Piyanka Jain and Puneet Sharma demystify the process of business analytics and demonstrate how professionals at any level can take the information at their disposal and in only five simple steps--using only Excel as a tool!--make the decision necessary to increase revenue, decrease costs, improve product, or whatever else is being asked of them at that time. Readers will learn how to:• Clarify the business question• Lay out a hypothesis-driven plan• Pull relevant data• Convert it to insights• Make decisions that make an impactPacked with examples and exercises, this refreshingly accessible book explains the four fundamental analytic techniques that can help solve a surprising 80 percent of all business problems. It doesn’t take a numbers person to know that is a formula you need!The four principles that can help us to overcome our brains' natural biases to make better, more informed decisions--in our lives, careers, families and organizations. In Decisive, Chip Heath and Dan Heath, the bestselling authors of Made to Stick and Switch, tackle the thorny problem of how to overcome our natural biases and irrational thinking to make better decisions, about our work, lives, companies and careers. When it comes to decision making, our brains are flawed instruments. But given that we are biologically hard-wired to act foolishly and behave irrationally at times, how can we do better? A number of recent bestsellers have identified how irrational our decision making can be. But being aware of a bias doesn't correct it, just as knowing that you are nearsighted doesn't help you to see better. In Decisive, the Heath brothers, drawing on extensive studies, stories and research, offer specific, practical tools that can help us to think more clearly about our options, and get out of our heads, to improve our decision making, at work and at home.This must-have manual provides detailed solutions to all of the 200+ exercises in Dickson, Hardy and Waters' Actuarial Mathematics for Life Contingent Risks, Second Edition. This groundbreaking text on the modern mathematics of life insurance is required reading for the Society of Actuaries' Exam MLC and also provides a solid preparation for the life contingencies material of the UK actuarial profession's exam CT5. Beyond the professional examinations, the textbook and solutions manual offer readers the opportunity to develop insight and understanding, and also offer practical advice for solving problems using straightforward, intuitive numerical methods. Companion spreadsheets illustrating these techniques are available for free download.A WALL STREET JOURNAL BESTSELLER! "You can't really know anything if you just remember isolated facts. If the facts don't hang together on a latticework of theory, you don't have them in a usable form. You've got to have models in your head." - Charlie Munger, investor, vice chairman of Berkshire Hathaway The world's greatest problem-solvers, forecasters, and decision-makers all rely on a set of frameworks and shortcuts that help them cut through complexity and separate good ideas from bad ones. They're called mental models, and you can find them in dense textbooks on psychology, physics, economics, and more. Or, you can just read Super Thinking, a fun, illustrated guide to every mental model you could possibly need. How can mental models help you? Well, here are just a few examples • If you've ever been overwhelmed by a to-do list that's grown too long, maybe you need the Eisenhower Decision Matrix to help you prioritize. • Use the 5 Whys model to better understand people's motivations or get to the root cause of a problem. • Before concluding that your colleague who messes up your projects is out to sabotage you, consider Hanlon's Razor for an alternative explanation. • Ever sat through a bad movie just because you paid a lot for the ticket? You might be falling prey to Sunk Cost Fallacy. • Set up Forcing Functions, like standing meeting or deadlines, to help grease the wheels for changes you want to occur. So, the next time you find yourself faced with a difficult decision or just trying to understand a complex situation, let Super Thinking upgrade your brain with mental models.A modern practical guide to building and using actuarial models. Loss Models: From Data to Decisions is organized around the principle that actuaries build models in order to analyze risks and make decisions about managing the risks based on conclusions drawn from the analysis. In practice, one begins with data and ends with a business decision. The book flows logically from this principle. It begins with a framework for model building and a description of frequency and severity loss data typically available to actuaries. Parametric models are emphasized throughout. The frequency and severity models are used in building aggregate loss models, in credibility-based pricing models, and in loss analysis over multiple time periods. Designed as both an educational text as well as a professional reference, Loss Models: Assumes little prior knowledge of insurance systems Features many fascinating examples taken from insurance files Contains a major instructive case study continued through each chapter Covers the classical areas of risk theory and loss distributions Gives a practical but rigorous treatment of modern

credibility theory Uses standard statistical concepts, methods, and notation Provides modern computational algorithms for implementing methods Includes free companion software available from an FTP site Deals with many topics on CAS 4B and SOA 151 and 152 actuarial exams Includes many exercises based on past CAS and SOA exams.An update of one of the most trusted books on constructing and analyzing actuarial models for the C/4 actuarial exam This new, abridged edition has been thoroughly revised and updated to include the essential material related to Exam C of the Society of Actuaries' and Casualty Actuarial Society's accreditation programs. The book maintains an approach to modeling and forecasting that utilizes tools related to risk theory, loss distributions, and survival models. Random variables, basic distributional quantities, the recursive method, and techniques for classifying and creating distributions are also discussed. Both parametric and non-parametric estimation methods are thoroughly covered along with advice for choosing an appropriate model. The book continues to distinguish itself by providing over 400 exercises that have appeared on previous examinations. The emphasis throughout is now placed on calculations and spreadsheet implementation. Additional features of the Fourth Edition include: extended discussions of risk management and risk measures, including Tail-Value-at-Risk; expanded coverage of copula models and their estimation; new sections on extreme value distributions and their estimations, compound frequency class of distributions, and estimation for the compound class; and motivating examples from fields of insurance and business. All data sets are available on an FTP site. An assortment of supplements (both print and electronic) is available. Loss Models, Fourth Edition is an essential resource for students and aspiring actuaries who are preparing to take the SOA and CAS preliminary examinations C/4. It is also a must-have reference for professional actuaries, graduate students in the actuarial field, and anyone who works with loss and risk models in their everyday work. To explore our additional offerings in actuarial exam preparation visit www.wiley.com/go/c4actuarial .Praise for the Third Edition "This book provides in-depth coverage of modelling techniques used throughout many branches of actuarial science. . . . The exceptional high standard of this book has made it a pleasure to read." —Annals of Actuarial Science Newly organized to focus exclusively on material tested in the Society of Actuaries' Exam C and the Casualty Actuarial Society's Exam 4, Loss Models: From Data to Decisions, Fourth Edition continues to supply actuaries with a practical approach to the key concepts and techniques needed on the job. With updated material and extensive examples, the book successfully provides the essential methods for using available data to construct models for the frequency and severity of future adverse outcomes. The book continues to equip readers with the tools needed for the construction and analysis of mathematical models that describe the process by which funds flow into and out of an insurance system. Focusing on the loss process, the authors explore key quantitative techniques including random variables, basic distributional quantities, and the recursive method, and discuss techniques for classifying and creating distributions. Parametric, non-parametric, and Bayesian estimation methods are thoroughly covered along with advice for choosing an appropriate model. New features of this Fourth Edition include: Expanded discussion of working with large data sets, now including more practical elements of constructing decrement tables Added coverage of methods for simulating several special situations An updated presentation of Bayesian estimation, outlining conjugate prior distributions and the linear exponential family as well as related computational issues Throughout the book, numerous examples showcase the real-world applications of the presented concepts, with an emphasis on calculations and spreadsheet implementation. A wealth of new exercises taken from previous Exam C/4 exams allows readers to test their comprehension of the material, and a related FTP site features the book's data sets. Loss Models, Fourth Edition is an indispensable resource for students and aspiring actuaries who are preparing to take the SOA and CAS examinations. The book is also a valuable reference for professional actuaries, actuarial students, and anyone who works with loss and risk models. To explore our additional offerings in actuarial exam preparation visit www.wiley.com/go/c4actuarial .Loss Models: From Data to Decisions, Fifth Edition continues to supply actuaries with a practical approach to the key concepts and techniques needed on the job. With updated material and extensive examples, the book successfully provides the essential methods for using available data to construct models for the frequency and severity of future adverse outcomes. The book continues to equip readers with the tools needed for the construction and analysis of mathematical models that describe the process by which funds flow into and out of an insurance system. Focusing on the loss process, the authors explore key quantitative techniques including random variables, basic distributional quantities, and the recursive method, and discuss techniques for classifying and creating distributions. Parametric, non-parametric, and Bayesian estimation methods are thoroughly covered along with advice for choosing an appropriate model. Throughout the book, numerous examples showcase the real-world applications of the presented concepts, with an emphasis on calculations and spreadsheet implementation. Loss Models: From Data to Decisions, Fifth Edition is an indispensable resource for students and aspiring actuaries who are preparing to take the SOA and CAS examinations. The book is also a valuable reference for professional actuaries, actuarial students, and anyone who works with loss and risk models.Revised, updated, and even more useful to students, teachers, and practicing professionals The First Edition of Loss Models was deemed "worthy of classical status" by the Journal of the International Statistical Institute. While retaining its predecessor's thorough treatment of the concepts and methods of analyzing contingent events, this powerful Second Edition is updated and expanded to offer even more complete and flexible coverage of risk theory, loss distributions, and survival models. Beginning with a framework for model building and a description of frequency and severity loss data typically available, it shows readers how to combine frequency, severity, and loss models to build aggregate loss models and credibility-based pricing models, and how to analyze loss over multiple time periods. Important features of this new edition include: * Thorough preparation for relevant parts of preliminary examinations of the Society of Actuaries (SOA) and Casualty Actuarial Society (CAS) * Exercises based on past SOA and CAS exams * Examples using actual insurance data * Practical treatment of modern credibility theory * Data files and more from an ftp site Loss Models, Second Edition is an important resource, providing a comprehensive, practically motivated toolkit and an excellent reference, for actuaries preparing for SOA and CAS preliminary examinations, students in actuarial science who need to understand loss and risk models, and practicing professionals involved in loss modeling.In this much needed resource, Maryellen Weimer-one of the nation's most highly regarded authorities on effective college teaching-offers a comprehensive work on the topic of learner-centered teaching in the college and university classroom. As the author explains, learner-centered teaching focuses attention on what the student is learning, how the student is learning, the conditions under which the student is learning, whether the student is retaining and applying the learning, and how current learning positions the student for future learning. To help educators accomplish the goals of learner-centered teaching, this important book presents the meaning, practice, and ramifications of the learner-centered approach, and how this approach transforms the college classroom environment. Learner-Centered Teaching shows how to tie teaching and curriculum to the process and objectives of learning rather than to the content delivery alone.This book discusses four approaches to incorporating student achievement in teacher evaluation. Seven chapters discuss: (1) "Teacher Evaluation and Student Achievement: An Introduction to the Issues"; (2) "What is the Relationship between Teaching and Learning?" (e.g., whether teachers are responsible for student learning and how to measure student learning); (3) "Assessing Teacher Performance through Comparative Student Growth: The Dallas Value-Added Accountability System"; (4) "Assessing Teacher Performance through Repeated Measures of Student Gains: The Tennessee Value-Added Assessment System"; (5) "Assessing Teacher Performance with Student Work: The Oregon

Teacher Work Sample Methodology"; (6) "Assessing Teacher Performance in a Standards-Based Environment: The Thompson, Colorado, School District"; and (7) Teacher Evaluation and Student Achievement: What are the Lessons Learned and Where Do We Go from Here?" (e.g., basic requirements of fair testing programs that are to be used to inform teacher evaluation). Chapters 3-6 include information on the purposes of the accountability system and how it was developed; student assessment strategies; how the accountability system works; how the accountability system relates to teacher evaluation; the advantages and disadvantages of the accountability system for teacher evaluation; and results of implementation. (Contains 66 references.) (SM)A comprehensive introduction to machine learning that uses probabilistic models and inference as a unifying approach. Today's Web-enabled deluge of electronic data calls for automated methods of data analysis. Machine learning provides these, developing methods that can automatically detect patterns in data and then use the uncovered patterns to predict future data. This textbook offers a comprehensive and self-contained introduction to the field of machine learning, based on a unified, probabilistic approach. The coverage combines breadth and depth, offering necessary background material on such topics as probability, optimization, and linear algebra as well as discussion of recent developments in the field, including conditional random fields, L1 regularization, and deep learning. The book is written in an informal, accessible style, complete with pseudo-code for the most important algorithms. All topics are copiously illustrated with color images and worked examples drawn from such application domains as biology, text processing, computer vision, and robotics. Rather than providing a cookbook of different heuristic methods, the book stresses a principled model-based approach, often using the language of graphical models to specify models in a concise and intuitive way. Almost all the models described have been implemented in a MATLAB software package—PMTK (probabilistic modeling toolkit)—that is freely available online. The book is suitable for upper-level undergraduates with an introductory-level college math background and beginning graduate students.Summary Deep Learning with Python introduces the field of deep learning using the Python language and the powerful Keras library. Written by Keras creator and Google AI researcher François Chollet, this book builds your understanding through intuitive explanations and practical examples. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Machine learning has made remarkable progress in recent years. We went from near-unusable speech and image recognition, to near-human accuracy. We went from machines that couldn't beat a serious Go player, to defeating a world champion. Behind this progress is deep learning—a combination of engineering advances, best practices, and theory that enables a wealth of previously impossible smart applications. About the Book Deep Learning with Python introduces the field of deep learning using the Python language and the powerful Keras library. Written by Keras creator and Google AI researcher François Chollet, this book builds your understanding through intuitive explanations and practical examples. You'll explore challenging concepts and practice with applications in computer vision, natural-language processing, and generative models. By the time you finish, you'll have the knowledge and hands-on skills to apply deep learning in your own projects. What's Inside Deep learning from first principles Setting up your own deep-learning environment Image-classification models Deep learning for text and sequences Neural style transfer, text generation, and image generation About the Reader Readers need intermediate Python skills. No previous experience with Keras, TensorFlow, or machine learning is required. About the Author François Chollet works on deep learning at Google in Mountain View, CA. He is the creator of the Keras deep-learning library, as well as a contributor to the TensorFlow machine-learning framework. He also does deep-learning research, with a focus on computer vision and the application of machine learning to formal reasoning. His papers have been published at major conferences in the field, including the Conference on Computer Vision and Pattern Recognition (CVPR), the Conference and Workshop on Neural Information Processing Systems (NIPS), the International Conference on Learning Representations (ICLR), and others. Table of Contents PART 1 - FUNDAMENTALS OF DEEP LEARNING What is deep learning? Before we begin: the mathematical building blocks of neural networks Getting started with neural networks Fundamentals of machine learning PART 2 - DEEP LEARNING IN PRACTICE Deep learning for computer vision Deep learning for text and sequences Advanced deep-learning best practices Generative deep learning Conclusions appendix A - Installing Keras and its dependencies on Ubuntu appendix B - Running Jupyter notebooks on an EC2 GPU instanceThis class-tested undergraduate textbook covers the entire syllabus for Exam C of the Society of Actuaries (SOA).The second edition of a comprehensive introduction to machine learning approaches used in predictive data analytics, covering both theory and practice. Machine learning is often used to build predictive models by extracting patterns from large datasets. These models are used in predictive data analytics applications including price prediction, risk assessment, predicting customer behavior, and document classification. This introductory textbook offers a detailed and focused treatment of the most important machine learning approaches used in predictive data analytics, covering both theoretical concepts and practical applications. Technical and mathematical material is augmented with explanatory worked examples, and case studies illustrate the application of these models in the broader business context. This second edition covers recent developments in machine learning, especially in a new chapter on deep learning, and two new chapters that go beyond predictive analytics to cover unsupervised learning and reinforcement learning.Solve real-world data problems with R and machine learning Key Features Third edition of the bestselling, widely acclaimed R machine learning book, updated and improved for R 3.6 and beyond Harness the power of R to build flexible, effective, and transparent machine learning models Learn quickly with a clear, hands-on guide by experienced machine learning teacher and practitioner, Brett Lantz Book Description Machine learning, at its core, is concerned with transforming data into actionable knowledge. R offers a powerful set of machine learning methods to quickly and easily gain insight from your data. Machine Learning with R, Third Edition provides a hands-on, readable guide to applying machine learning to real-world problems. Whether you are an experienced R user or new to the language, Brett Lantz teaches you everything you need to uncover key insights, make new predictions, and visualize your findings. This new 3rd edition updates the classic R data science book to R 3.6 with newer and better libraries, advice on ethical and bias issues in machine learning, and an introduction to deep learning. Find powerful new insights in your data; discover machine learning with R. What you will learn Discover the origins of machine learning and how exactly a computer learns by example Prepare your data for machine learning work with the R programming language Classify important outcomes using nearest neighbor and Bayesian methods Predict future events using decision trees, rules, and support vector machines Forecast numeric data and estimate financial values using regression methods Model complex processes with artificial neural networks — the basis of deep learning Avoid bias in machine learning models Evaluate your models and improve their performance Connect R to SQL databases and emerging big data technologies such as Spark, H2O, and TensorFlow Who this book is for Data scientists, students, and other practitioners who want a clear, accessible guide to machine learning with R.The U.S. Environmental Protection Agency (EPA) is one of several federal agencies responsible for protecting Americans against significant risks to human health and the environment. As part of that mission, EPA estimates the nature, magnitude, and likelihood of risks to human health and the environment; identifies the potential regulatory actions that will mitigate those risks and protect public health1 and the environment; and uses that information to decide on appropriate regulatory action. Uncertainties, both qualitative and quantitative, in the data and analyses on which these decisions are based enter into the process at each step. As a result, the informed identification and use of the uncertainties inherent in the process is an essential feature of environmental decision

making. EPA requested that the Institute of Medicine (IOM) convene a committee to provide guidance to its decision makers and their partners in states and localities on approaches to managing risk in different contexts when uncertainty is present. It also sought guidance on how information on uncertainty should be presented to help risk managers make sound decisions and to increase transparency in its communications with the public about those decisions. Given that its charge is not limited to human health risk assessment and includes broad questions about managing risks and decision making, in this report the committee examines the analysis of uncertainty in those other areas in addition to human health risks. Environmental Decisions in the Face of Uncertainty explains the statement of task and summarizes the findings of the committee.“In this second edition, Vic and Chris have done an excellent job of citing the importance of accurate problem identi cation and the need for validated data input for the decision making process—a must read book for those managers responsible for making operational decisions.” - Richard Bozeman, Jr., Author and Inventor, Retired Chief of the Propulsion and Power Division Test Facilities, NASA “I TRULY enjoyed the book and found it very informative. I am not an easy sell when it comes to the quantitative approach however I WAS SOLD! I will never approach future negotiations and future data analysis the same after reading this book. GOOD JOB!”—Peter Birkholz, Managing Partner of the Sam Houston Group LP, Management Consultant—Birkholz Management Co., LLC -- Information is power in supply chain operations, negotiations, continuous improvement programs, process improvement, and indeed in all aspects of managing an operation. Accurate and timely information can result in better decisions that translate into the improvement of bottom-line results. This book provides the business professional a concise guide to the creation and effective use of both internal and external cost models. Development of internal cost models is discussed with illustrations showing how they can be deployed to assist in new product development, pricing decisions, make-or-buy decisions, and the identi cation of opportunities for internal process improvement projects.Global climate change is one of America's most significant long-term policy challenges. Human activity--especially the use of fossil fuels, industrial processes, livestock production, waste disposal, and land use change--is affecting global average temperatures, snow and ice cover, sea-level, ocean acidity, growing seasons and precipitation patterns, ecosystems, and human health. Climate-related decisions are being carried out by almost every agency of the federal government, as well as many state and local government leaders and agencies, businesses and individual citizens. Decision makers must contend with the availability and quality of information, the efficacy of proposed solutions, the unanticipated consequences resulting from decisions, the challenge of implementing chosen actions, and must consider how to sustain the action over time and respond to new information. Informing an Effective Response to Climate Change, a volume in the America's Climate Choices series, describes and assesses different activities, products, strategies, and tools for informing decision makers about climate change and helping them plan and execute effective, integrated responses. It discusses who is making decisions (on the local, state, and national levels), who should be providing information to make decisions, and how that information should be provided. It covers all levels of decision making, including international, state, and individual decision making. While most existing research has focused on the physical aspect of climate change, Informing an Effective Response to Climate Change employs theory and case study to describe the efforts undertaken so far, and to guide the development of future decision-making resources. Informing an Effective Response to Climate Change offers much-needed guidance to those creating public policy and assists in implementing that policy. The information presented in this book will be invaluable to the research community, especially social scientists studying climate change; practitioners of decision-making assistance, including advocacy organizations, non-profits, and government agencies; and college-level teachers and students."Mun demystifies real options analysis and delivers a powerful, pragmatic guide for decision-makers and practitioners alike. Finally, there is a book that equips professionals to easily recognize, value, and seize real options in the world around them." --Jim Schreckengast, Senior VP, R&D Strategy, Gemplus International SA, France Completely revised and updated to meet the challenges of today's dynamic business environment, Real Options Analysis, Second Edition offers you a fresh look at evaluating capital investment strategies by taking the strategic decision-making process into consideration. This comprehensive guide provides both a qualitative and quantitative description of real options; the methods used in solving real options; why and when they are used; and the applicability of these methods in decision making.You're sitting in a windowless conference room. Twenty minutes into the meeting the presenter finally makes it to slide four of a thirty two- slide deck. At least you can read this one, unlike the others, which were crammed with numbers, graphs and charts. You look around, wondering if anyone else is following the presentation. Just about everyone these days suffers from information overload the 24/7 explosion from our computers, smartphones, media, colleagues, and customers. Information is essential to making intelligent decisions, but more often than not, it simply overwhelms us. It's like trying to drink from a fire hose. The question isn't how to stop all those e-mails, meetings, conference calls, and fat reports; that's impossible. The question is what to do with them. How do you find the truly essential nuggets of information and use them with confidence? The solution proposed by Christopher Frank and Paul Magnone sounds deceptively simple: Learn how to ask the right questions at the right time. Whatever field you're in, asking smarter questions will expose you to new information, point you to connections between seemingly unrelated facts, and open new avenues of discussion with your colleagues. The authors explain the seven questions that can help you bring a big- picture perspective to problems that often leave others buried in irrelevant details. And they show through real-life case studies- including Trader Joe's, Starbucks, Kodak, Microsoft, iRobot, and IBM-how their method can have a dramatic impact. It really is possible to convert the fire hose of information into useful insights. Consider a nonbusiness example: the 2010 Icelandic volcano eruption that sent a giant ash cloud toward Europe. Tens of thousands of flights were canceled and five million passengers stranded, leading to billions in economic losses. Europe's best scientists generated oceans of data and carefully modeled the cloud's dispersion pattern. But no one could answer the essential question: Was the concentration of volcanic ash in the air enough to damage a jet engine? Without that key answer, all the carefully gathered facts were useless to the decision makers. Once you adopt the seven questions, you'll start having more productive brainstorming sessions. You'll answer critical questions faster and find unexpected solutions to important problems. And you'll get better at communicating to your colleagues with more clarity and focus, turning down the fire hose that other people have to cope with.Thoroughly revised and updated with essential material related to the C/4 actuarial exam, this invaluable new edition maintains an approach to modeling and forecasting utilizing tools related to risk theory, loss distributions, and survival models. It covers everything from random variables, basic distributional quantities, and copula models to parametric estimation methods, risk management and measures, and extreme value distributions. It also provides over 400 exercises from previous examinations, places emphasis on calculations and spreadsheet implementation, and offers access to an FTP web site.In 1997, after more than a decade of research, the National Cancer Institute (NCI) released a report which provided their assessment of radiation exposures that Americans may have received from radioactive iodine released from the atomic bomb tests conducted in Nevada during the 1950s and early 1960s. This book provides an evaluation of the soundness of the methodology used by the NCI study to estimate: Past radiation doses. Possible health consequences of exposure to iodine-131. Implications for clinical practice. Possible public health strategies--such as systematic screening for thyroid cancer--to respond to the exposures. In addition, the book provides an evaluation of the NCI estimates of the number of thyroid cancers that might result from the nuclear testing program and provides guidance on approaches the U.S. government

might use to communicate with the public about Iodine-131 exposures and health risks.Student Solutions Manual to Accompany Loss Models: From Data to Decisions, Fourth Edition. This volume is organised around the principle that much of actuarial science consists of the construction and analysis of mathematical models which describe the process by which funds flow into and out of an insurance system.A comprehensive introduction to statistics that teaches the fundamentals with real-life scenarios, and covers histograms, quartiles, probability, Bayes' theorem, predictions, approximations, random samples, and related topics.Over the past ten years, there has been growing interest in the process of strategic decision-making among both managers and researchers. Strategic decisions are important for five main reasons: They are large-scale, risky and hard to reverse; they are a bridge between deliberate and emerging strategies; they can be a major source of organizational learning; they play an important part in the development of individual managers and they cut accross functions and academic disciplines. Strategic Decisions summarizes the current state of the art in research on strategic decision-making, with chapters prepared by leading strategy researchers. The editors also present implications for current application and proposed directions for future research.This book teaches multiple regression and time series and how to use these to analyze real data in risk management and finance.These lecture notes from the 1985 AMS Short Course examine a variety of topics from the contemporary theory of actuarial mathematics. Recent clarification in the concepts of probability and statistics has laid a much richer foundation for this theory. Other factors that have shaped the theory include the continuing advances in computer science, the flourishing mathematical theory of risk, developments in stochastic processes, and recent growth in the theory of finance. In turn, actuarial concepts have been applied to other areas such as biostatistics, demography, economic, and reliability engineering.