

Forecasting Methods And Applications Makridakis

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Unbelievable - Rob J Hyndman 2015-09-16

A journey from faith via evidence. Why a university professor gave up religion and became an unbeliever. Rob J Hyndman is Professor of Statistics at Monash University, Australia. He was a Christadelphian for nearly 30 years, and was well-known as a writer and Bible teacher within the Christadelphian community. He gave up Christianity when he no longer thought that there was sufficient evidence to support belief in the Bible. This is a personal memoir describing Rob's journey of deconversion. Until recently, he was regularly speaking at church conferences internationally, and his books are still used in Bible classes and Sunday Schools around the world. He even helped establish an innovative new church, which became a model for similar churches in other countries. Eventually he came to the view that he was mistaken, and that there was little or no evidence that the Bible was inspired or that God exists. In this book, he reflects on how he was fooled, and why he changed his mind. Whether you agree with his conclusions or not, you will be led to reflect on the nature of faith and evidence, and how they interact.

Sales Forecasting Management - John T. Mentzer 2004-11-23

Incorporating 25 years of sales forecasting management research with more than 400 companies, Sales Forecasting Management, Second Edition is the first text to truly integrate the theory and practice of sales forecasting management. This research includes the personal experiences of John T. Mentzer and Mark A. Moon in advising companies how to improve their sales forecasting management practices. Their program of research includes two major surveys of companies' sales forecasting practices, a two-year, in-depth study of sales forecasting management practices of 20 major companies, and an ongoing study of how to apply the findings from the two-year study to conducting sales forecasting audits of additional companies. The book provides comprehensive coverage of the techniques and applications of sales forecasting analysis, combined with a managerial focus to give managers and users of the sales forecasting function a clear understanding of the forecasting needs of all business functions.

Forecasting - Spyros G. Makridakis 1978

"A Wiley/Hamilton publication." Includes bibliographies and index.

Handbook on Decision Making - Chee Peng Lim 2010-09-07

Decision making arises when we wish to select the best possible course of action from a set of alternatives. With advancements of the digital technologies, it is easy, and almost instantaneous, to gather a large volume of information and/or data pertaining to a problem that we want to solve. For instance, the world-wide web is perhaps the primary source of information and/or data that we often turn to when we face a decision making problem. However, the information and/or data that we obtain from the real world often are complex, and comprise various kinds of noise. Besides, real-world information and/or data often are incomplete and ambiguous, owing to uncertainties of the environments. All these make decision making a challenging task. To cope with the challenges of decision making, researchers have designed and developed a variety of decision support systems to provide assistance in human decision making processes. The main aim of this book is to provide a small collection of techniques stemmed from artificial intelligence, as well as other complementary methodologies, that are useful for the design and development of intelligent decision support systems. Application examples of how these intelligent decision support systems can be utilized to help tackle a variety of real-world problems in different domains, e. g. business, management, manufacturing, transportation and food industries, and biomedicine, are also presented. A total of twenty chapters, which can be broadly divided into two parts, i. e.

Practical Time Series Analysis - Aileen Nielsen 2019-09-20

Time series data analysis is increasingly important due to the massive production of such data through the internet of things, the digitalization

of healthcare, and the rise of smart cities. As continuous monitoring and data collection become more common, the need for competent time series analysis with both statistical and machine learning techniques will increase. Covering innovations in time series data analysis and use cases from the real world, this practical guide will help you solve the most common data engineering and analysis challenges in time series, using both traditional statistical and modern machine learning techniques. Author Aileen Nielsen offers an accessible, well-rounded introduction to time series in both R and Python that will have data scientists, software engineers, and researchers up and running quickly. You'll get the guidance you need to confidently: Find and wrangle time series data Undertake exploratory time series data analysis Store temporal data Simulate time series data Generate and select features for a time series Measure error Forecast and classify time series with machine or deep learning Evaluate accuracy and performance

Forecasting - Spyros G. Makridakis 1998-01-06

Known from its last editions as the "Bible of Forecasting", the third edition of this authoritative text has adopted a new approach—one that is as new as the latest trends in the field: "Explaining the past is not adequate for predicting the future". In other words, accurate forecasting requires more than just the fitting of models to historical data. Inside, readers will find the latest techniques used by managers in business today, discover the importance of forecasting and learn how it's accomplished. And readers will develop the necessary skills to meet the increased demand for thoughtful and realistic forecasts.

Applied Data Mining for Forecasting Using SAS - Tim Rey 2012-07-31

Applied Data Mining for Forecasting Using SAS, by Tim Rey, Arthur Kordon, and Chip Wells, introduces and describes approaches for mining large time series data sets. Written for forecasting practitioners, engineers, statisticians, and economists, the book details how to select useful candidate input variables for time series regression models in environments when the number of candidates is large, and identifies the correlation structure between selected candidate inputs and the forecast variable.

Forecasting with Dynamic Regression Models - Alan Pankratz 1991-10-24

One of the most widely used tools in statistical forecasting, single equation regression models is examined here. A companion to the author's earlier work, Forecasting with Univariate Box-Jenkins Models: Concepts and Cases, the present text pulls together recent time series ideas and gives special attention to possible intertemporal patterns, distributed lag responses of output to input series and the autocorrelation patterns of regression disturbance. It also includes six case studies.

Business forecasting - 1958

Neural Network Time Series - E. Michael Azoff 1994-09-27

Comprehensively specified benchmarks are provided (including weight values), drawn from time series examples in chaos theory and financial futures. The book covers data preprocessing, random walk theory, trading systems and risk analysis. It also provides a literature review, a tutorial on backpropagation, and a chapter on further reading and software.

Forecasting: principles and practice - Rob J Hyndman 2018-05-08

Forecasting is required in many situations. Stocking an inventory may require forecasts of demand months in advance. Telecommunication routing requires traffic forecasts a few minutes ahead. Whatever the circumstances or time horizons involved, forecasting is an important aid in effective and efficient planning. This textbook provides a comprehensive introduction to forecasting methods and presents enough information about each method for readers to use them sensibly.

Dynamic Factor Models - 2016-01-08

This volume explores dynamic factor model specification, asymptotic and

finite-sample behavior of parameter estimators, identification, frequentist and Bayesian estimation of the corresponding state space models, and applications.

Deep Learning for Time Series Forecasting - Jason Brownlee

2018-08-30

Deep learning methods offer a lot of promise for time series forecasting, such as the automatic learning of temporal dependence and the automatic handling of temporal structures like trends and seasonality. With clear explanations, standard Python libraries, and step-by-step tutorial lessons you'll discover how to develop deep learning models for your own time series forecasting projects.

Forecasting with Exponential Smoothing - Rob Hyndman 2008-06-19

Exponential smoothing methods have been around since the 1950s, and are still the most popular forecasting methods used in business and industry. However, a modeling framework incorporating stochastic models, likelihood calculation, prediction intervals and procedures for model selection, was not developed until recently. This book brings together all of the important new results on the state space framework for exponential smoothing. It will be of interest to people wanting to apply the methods in their own area of interest as well as for researchers wanting to take the ideas in new directions. Part 1 provides an introduction to exponential smoothing and the underlying models. The essential details are given in Part 2, which also provide links to the most important papers in the literature. More advanced topics are covered in Part 3, including the mathematical properties of the models and extensions of the models for specific problems. Applications to particular domains are discussed in Part 4.

Forecasting for Economics and Business - Gloria González-Rivera

2016-12-05

For junior/senior undergraduates in a variety of fields such as economics, business administration, applied mathematics and statistics, and for graduate students in quantitative masters programs such as MBA and MA/MS in economics. A student-friendly approach to understanding forecasting. Knowledge of forecasting methods is among the most demanded qualifications for professional economists, and business people working in either the private or public sectors of the economy. The general aim of this textbook is to carefully develop sophisticated professionals, who are able to critically analyze time series data and forecasting reports because they have experienced the merits and shortcomings of forecasting practice.

Intermittent Demand Forecasting - John E. Boylan 2021-06-02

INTERMITTENT DEMAND FORECASTING The first text to focus on the methods and approaches of intermittent, rather than fast, demand forecasting Intermittent Demand Forecasting is for anyone who is interested in improving forecasts of intermittent demand products, and enhancing the management of inventories. Whether you are a practitioner, at the sharp end of demand planning, a software designer, a student, an academic teaching operational research or operations management courses, or a researcher in this field, we hope that the book will inspire you to rethink demand forecasting. If you do so, then you can contribute towards significant economic and environmental benefits. No prior knowledge of intermittent demand forecasting or inventory management is assumed in this book. The key formulae are accompanied by worked examples to show how they can be implemented in practice. For those wishing to understand the theory in more depth, technical notes are provided at the end of each chapter, as well as an extensive and up-to-date collection of references for further study. Software developments are reviewed, to give an appreciation of the current state of the art in commercial and open source software. "Intermittent demand forecasting may seem like a specialized area but actually is at the center of sustainability efforts to consume less and to waste less. Boylan and Syntetos have done a superb job in showing how improvements in inventory management are pivotal in achieving this. Their book covers both the theory and practice of intermittent demand forecasting and my prediction is that it will fast become the bible of the field." —Spyros Makridakis, Professor, University of Nicosia, and Director, Institute for the Future and the Makridakis Open Forecasting Center (MOFC). "We have been able to support our clients by adopting many of the ideas discussed in this excellent book, and implementing them in our software. I am sure that these ideas will be equally helpful for other supply chain software vendors and for companies wanting to update and upgrade their capabilities in forecasting and inventory management." —Suresh Acharya, VP, Research and Development, Blue Yonder. "As product variants proliferate and the pace of business quickens, more and more items have intermittent demand. Boylan and Syntetos have long been

leaders in extending forecasting and inventory methods to accommodate this new reality. Their book gathers and clarifies decades of research in this area, and explains how practitioners can exploit this knowledge to make their operations more efficient and effective." —Thomas R.

Willemain, Professor Emeritus, Rensselaer Polytechnic Institute.

Engineering Chemistry - Shikha Agarwal 2019-05-23

Written in lucid language, the book offers a detailed treatment of fundamental concepts of chemistry and its engineering applications.

Time Series Analysis and Its Applications - Robert H. Shumway

2014-01-15

Neural Smithing - Russell Reed 1999-02-17

Artificial neural networks are nonlinear mapping systems whose structure is loosely based on principles observed in the nervous systems of humans and animals. The basic idea is that massive systems of simple units linked together in appropriate ways can generate many complex and interesting behaviors. This book focuses on the subset of feedforward artificial neural networks called multilayer perceptrons (MLP). These are the mostly widely used neural networks, with applications as diverse as finance (forecasting), manufacturing (process control), and science (speech and image recognition). This book presents an extensive and practical overview of almost every aspect of MLP methodology, progressing from an initial discussion of what MLPs are and how they might be used to an in-depth examination of technical factors affecting performance. The book can be used as a tool kit by readers interested in applying networks to specific problems, yet it also presents theory and references outlining the last ten years of MLP research.

Forewarned - Paul Goodwin 2017-07-13

Whether it's an unforeseen financial crash, a shock election result or an expected barbecue season that sees record rainfall, forecasts have impacts on us all. But do forecasters tell you all that they know or what they really believe? When is your gut feeling likely to be better than a computer's prediction? Can you accurately predict your own emotional reaction to future events like a new job or a new house? And when is a 'forecast' not a forecast? Forewarned will answer these questions, and many more besides, covering a wide range of topics, from business to politics, sport and lotteries to that old perennial, the weather.

Forewarned is a consumer's guide to prediction, based on the very latest scientific research. By the end of the book you'll be better placed to make informed decisions in a volatile world. You'll know when forecasts can be a reliable guide to the vicissitudes and uncertainties of the future - and when they are best ignored.

Economic Forecasting and Policy - N. Carnot 2011-07-26

Economic Forecasting provides a comprehensive overview of macroeconomic forecasting. The focus is first on a wide range of theories as well as empirical methods: business cycle analysis, time series methods, macroeconomic models, medium and long-run projections, fiscal and financial forecasts, and sectoral forecasting.

Business Forecasting - Michael Gilliland 2021-04-29

Discover the role of machine learning and artificial intelligence in business forecasting from some of the brightest minds in the field In Business Forecasting: The Emerging Role of Artificial Intelligence and Machine Learning accomplished authors Michael Gilliland, Len Tashman, and Udo Sglavo deliver relevant and timely insights from some of the most important and influential authors in the field of forecasting. You'll learn about the role played by machine learning and AI in the forecasting process and discover brand-new research, case studies, and thoughtful discussions covering an array of practical topics. The book offers multiple perspectives on issues like monitoring forecast performance, forecasting process, communication and accountability for forecasts, and the use of big data in forecasting. You will find: Discussions on deep learning in forecasting, including current trends and challenges Explorations of neural network-based forecasting strategies A treatment of the future of artificial intelligence in business forecasting Analyses of forecasting methods, including modeling, selection, and monitoring In addition to the Foreword by renowned researchers Spyros Makridakis and Fotios Petropoulos, the book also includes 16 "opinion/editorial" Afterwords by a diverse range of top academics, consultants, vendors, and industry practitioners, each providing their own unique vision of the issues, current state, and future direction of business forecasting. Perfect for financial controllers, chief financial officers, business analysts, forecast analysts, and demand planners, Business Forecasting will also earn a place in the libraries of other executives and managers who seek a one-stop resource to help them critically assess and improve their own

organization's forecasting efforts.

FORECASTING METHODS AND APPLICATIONS, 3RD ED - Spyros Makridakis 2008-09

Market_Desc: · Market Researchers· Financial Analysts· Business Planners· Business Economists· Operations Managers· Human Resources Administrators· Business Analysts of various kinds· Other Business Professionals
Special Features: · A managerial, business orientation approach is used instead of a mathematical, research focus. Emphasis placed on the practical uses of forecasting.· All data sets used in this text will be available on the Internet.· Coverage now includes the latest techniques used by managers in business today. About The Book: Known from its last editions as the Bible of Forecasting , the third edition of this authoritative text has adopted a new approach—one that is as new as the latest trends in the field: Explaining the past is not adequate for predicting the future . In other words, accurate forecasting requires more than just the fitting of models to historical data. Inside, readers will find the latest techniques used by managers in business today, discover the importance of forecasting and learn how it's accomplished. And readers will develop the necessary skills to meet the increased demand for thoughtful and realistic forecasts.

Principles of Business Forecasting--2nd Ed - Keith Ord 2017-08-15

Advances in Distribution Logistics - Bernhard Fleischmann 2012-12-06

Distribution logistics have been strongly affected by recent economic trends: globalization of markets, deregulation of the European freight traffic, a growing part of just-in-time deliveries and both increased competition and strategic cooperation between all parties involved. The book covers in a systematic way the strategic, tactical and operational planning of distribution systems and processes. It gives an overview of the relevant quantitative models and techniques as well as of applications in industry presented through numerous case studies. Researchers and practitioners will thus equally benefit from this volume.

Business Intelligence in Economic Forecasting: Technologies and Techniques - Wang, Jue 2010-06-30

With the rapid development of economic globalization and information technology, the field of economic forecasting continues its expeditious advancement, providing business and government with applicable technologies. This book discusses various business intelligence techniques including neural networks, support vector machine, genetic programming, clustering analysis, TEI@I, fuzzy systems, text mining, and many more. It serves as a valuable reference for professionals and researchers interested in BI technologies and their practical applications in economic forecasting, as well as policy makers in business organizations and governments.

Improving Forecasts with Integrated Business Planning - Ganesh Sankaran 2019-03-05

This book provides both a broad overview of the forecasting process, covering technological and human aspects alike, and deep insights into algorithms and platform functionalities in the IBP toolbox required to maximize forecast accuracy. Rich in technical and business explanations, it addresses short-, medium- and long-term forecasting processes using functionalities available in demand planning and demand sensing. There are also several theoretical concepts underpinning the algorithms discussed; these are explained with numerical examples to help demystify the IBP forecasting toolbox. Beyond standard procedures, the book also discusses custom approaches (e.g. new segmentation criteria, new outlier detection and correction methods) and new methods (e.g. the use of Markov chains for forecasting sporadic demands), etc. It subsequently benchmarks common practices using these innovative approaches and discusses the results. As measurement is an important precondition for improvement, an entire chapter is devoted to discussing process improvement and value using the Six Sigma methodology. In closing, the book provides several useful tips and tricks that should come in handy during project implementation.

Intermittent Demand Forecasting - John E. Boylan 2021-06-08

INTERMITTENT DEMAND FORECASTING The first text to focus on the methods and approaches of intermittent, rather than fast, demand forecasting Intermittent Demand Forecasting is for anyone who is interested in improving forecasts of intermittent demand products, and enhancing the management of inventories. Whether you are a practitioner, at the sharp end of demand planning, a software designer, a student, an academic teaching operational research or operations management courses, or a researcher in this field, we hope that the book will inspire you to rethink demand forecasting. If you do so, then you can

contribute towards significant economic and environmental benefits. No prior knowledge of intermittent demand forecasting or inventory management is assumed in this book. The key formulae are accompanied by worked examples to show how they can be implemented in practice. For those wishing to understand the theory in more depth, technical notes are provided at the end of each chapter, as well as an extensive and up-to-date collection of references for further study. Software developments are reviewed, to give an appreciation of the current state of the art in commercial and open source software. "Intermittent demand forecasting may seem like a specialized area but actually is at the center of sustainability efforts to consume less and to waste less. Boylan and Syntetos have done a superb job in showing how improvements in inventory management are pivotal in achieving this. Their book covers both the theory and practice of intermittent demand forecasting and my prediction is that it will fast become the bible of the field." —Spyros Makridakis, Professor, University of Nicosia, and Director, Institute for the Future and the Makridakis Open Forecasting Center (MOFC). "We have been able to support our clients by adopting many of the ideas discussed in this excellent book, and implementing them in our software. I am sure that these ideas will be equally helpful for other supply chain software vendors and for companies wanting to update and upgrade their capabilities in forecasting and inventory management." —Suresh Acharya, VP, Research and Development, Blue Yonder. "As product variants proliferate and the pace of business quickens, more and more items have intermittent demand. Boylan and Syntetos have long been leaders in extending forecasting and inventory methods to accommodate this new reality. Their book gathers and clarifies decades of research in this area, and explains how practitioners can exploit this knowledge to make their operations more efficient and effective." —Thomas R. Willemain, Professor Emeritus, Rensselaer Polytechnic Institute.

The Routledge Companion to Production and Operations Management - Martin K. Starr 2017-03-27

This remarkable volume highlights the importance of Production and Operations Management (POM) as a field of study and research contributing to substantial business and social growth. The editors emphasize how POM works with a range of systems—agriculture, disaster management, e-commerce, healthcare, hospitality, military systems, not-for-profit, retail, sports, sustainability, telecommunications, and transport—and how it contributes to the growth of each. Martin K. Starr and Sushil K. Gupta gather an international team of experts to provide researchers and students with a panoramic vision of the field. Divided into eight parts, the book presents the history of POM, and establishes the foundation upon which POM has been built while also revisiting and revitalizing topics that have long been essential. It examines the significance of processes and projects to the fundamental growth of the POM field. Critical emerging themes and new research are examined with open minds and this is followed by opportunities to interface with other business functions. Finally, the next era is discussed in ways that combine practical skill with philosophy in its analysis of POM, including traditional and nontraditional applications, before concluding with the editors' thoughts on the future of the discipline. Students of POM will find this a comprehensive, definitive resource on the state of the discipline and its future directions.

Forecasting - Spyros G. Makridakis 1983-04-20

Presents a wide range of forecasting methods useful for undergraduate or graduate students majoring in business management, economics, or engineering. Develops skills for selecting the proper methodology. Integrates forecasting with the planning and decision-making activities within an organization. Methods of forecasting include: decomposition, regression analysis, and econometrics. Stresses the strengths and weaknesses of the individual methods in various types of organizational areas. Numerous examples are included.

Principles of Forecasting - J.S. Armstrong 2001

This handbook summarises knowledge from experts and empirical studies. It provides guidelines that can be applied in fields such as economics, sociology, and psychology. Includes a comprehensive forecasting dictionary.

Time-Series Forecasting - Chris Chatfield 2000-10-25

From the author of the bestselling "Analysis of Time Series," Time-Series Forecasting offers a comprehensive, up-to-date review of forecasting methods. It provides a summary of time-series modelling procedures, followed by a brief catalogue of many different time-series forecasting methods, ranging from ad-hoc methods through ARIMA and state-space modelling to multivariate methods and including recent arrivals, such as GARCH models, neural networks, and cointegrated models. The author

compares the more important methods in terms of their theoretical inter-relationships and their practical merits. He also considers two other general forecasting topics that have been somewhat neglected in the literature: the computation of prediction intervals and the effect of model uncertainty on forecast accuracy. Although the search for a "best" method continues, it is now well established that no single method will outperform all other methods in all situations-the context is crucial. Time-Series Forecasting provides an outstanding reference source for the more generally applicable methods particularly useful to researchers and practitioners in forecasting in the areas of economics, government, industry, and commerce.

Encyclopedia of Production and Manufacturing Management - Paul M. Swamidass 2000-06-30

Production and manufacturing management since the 1980s has absorbed in rapid succession several new production management concepts: manufacturing strategy, focused factory, just-in-time manufacturing, concurrent engineering, total quality management, supply chain management, flexible manufacturing systems, lean production, mass customization, and more. With the increasing globalization of manufacturing, the field will continue to expand. This encyclopedia's audience includes anyone concerned with manufacturing techniques, methods, and manufacturing decisions.

Manager's Guide to Forecasting - David M. Georgoff 1986-01-01

Elements of Forecasting - Francis X. Diebold 2007

ELEMENTARY FORECASTING focuses on the core techniques of widest applicability. The author illustrates all methods with detailed real-world applications, many of them international in flavor, designed to mimic typical forecasting situations.

Business Forecasting - Michael Gilliland 2016-01-05

A comprehensive collection of the field's most provocative, influential new work Business Forecasting compiles some of the field's important and influential literature into a single, comprehensive reference for forecast modeling and process improvement. It is packed with provocative ideas from forecasting researchers and practitioners, on topics including accuracy metrics, benchmarking, modeling of problem data, and overcoming dysfunctional behaviors. Its coverage includes often-overlooked issues at the forefront of research, such as uncertainty, randomness, and forecastability, as well as emerging areas like data mining for forecasting. The articles present critical analysis of current practices and consideration of new ideas. With a mix of formal, rigorous pieces and brief introductory chapters, the book provides practitioners with a comprehensive examination of the current state of the business forecasting field. Forecasting performance is ultimately limited by the 'forecastability' of the data. Yet failing to recognize this, many organizations continue to squander resources pursuing unachievable levels of accuracy. This book provides a wealth of ideas for improving all aspects of the process, including the avoidance of wasted efforts that fail to improve (or even harm) forecast accuracy. Analyzes the most prominent issues in business forecasting Investigates emerging approaches and new methods of analysis Combines forecasts to improve accuracy Utilizes Forecast Value Added to identify process inefficiency The business environment is evolving, and forecasting methods must evolve alongside it. This compilation delivers an array of new tools and research that can enable more efficient processes and more accurate results. Business Forecasting provides an expert's-eye view of the field's latest developments to help you achieve your desired business outcomes.

Statistical Methods for Forecasting - Bovas Abraham 2009-09-25

The Wiley-Interscience Paperback Series consists of selected books that have been made more accessible to consumers in an effort to increase global appeal and general circulation. With these new unabridged softcover volumes, Wiley hopes to extend the lives of these works by making them available to future generations of statisticians, mathematicians, and scientists. "This book, it must be said, lives up to the words on its advertising cover: 'Bridging the gap between introductory, descriptive approaches and highly advanced theoretical treatises, it provides a practical, intermediate level discussion of a variety of forecasting tools, and explains how they relate to one another, both in theory and practice.' It does just that!" -Journal of the Royal Statistical Society "A well-written work that deals with statistical methods and models that can be used to produce short-term forecasts, this book has wide-ranging applications. It could be used in the context of a study of regression, forecasting, and time series analysis by PhD students; or to support a concentration in quantitative methods for MBA students; or as a work in applied statistics for advanced

undergraduates." -Choice Statistical Methods for Forecasting is a comprehensive, readable treatment of statistical methods and models used to produce short-term forecasts. The interconnections between the forecasting models and methods are thoroughly explained, and the gap between theory and practice is successfully bridged. Special topics are discussed, such as transfer function modeling; Kalman filtering; state space models; Bayesian forecasting; and methods for forecast evaluation, comparison, and control. The book provides time series, autocorrelation, and partial autocorrelation plots, as well as examples and exercises using real data. Statistical Methods for Forecasting serves as an outstanding textbook for advanced undergraduate and graduate courses in statistics, business, engineering, and the social sciences, as well as a working reference for professionals in business, industry, and government.

Forecasting With The Theta Method - Kostas I. Nikolopoulos 2019-03-18

The first book to be published on the Theta method, outlining under what conditions the method outperforms other forecasting methods This book is the first to detail the Theta method of forecasting - one of the most difficult-to-beat forecasting benchmarks, which topped the biggest forecasting competition in the world in 2000: the M3 competition. Written by two of the leading experts in the forecasting field, it illuminates the exact replication of the method and under what conditions the method outperforms other forecasting methods. Recent developments such as multivariate models are also included, as are a series of practical applications in finance, economics, and healthcare. The book also offers practical tools in MS Excel and guidance, as well as provisional access, for the use of R source code and respective packages. Forecasting with the Theta Method: Theory and Applications includes three main parts. The first part, titled Theory, Methods, Models & Applications details the new theory about the method. The second part, Applications & Performance in Forecasting Competitions, describes empirical results and simulations on the method. The last part roadmaps future research and also include contributions from another leading scholar of the method - Dr. Fotios Petropoulos. First ever book to be published on the Theta Method Explores new theory and exact conditions under which methods would outperform most forecasting benchmarks Clearly written with practical applications Employs R - open source code with all included implementations Forecasting with the Theta Method: Theory and Applications is a valuable tool for both academics and practitioners involved in forecasting and respective software development.

Introduction to Time Series and Forecasting - Peter J. Brockwell 2013-03-14

Some of the key mathematical results are stated without proof in order to make the underlying theory accessible to a wider audience. The book assumes a knowledge only of basic calculus, matrix algebra, and elementary statistics. The emphasis is on methods and the analysis of data sets. The logic and tools of model-building for stationary and non-stationary time series are developed in detail and numerous exercises, many of which make use of the included computer package, provide the reader with ample opportunity to develop skills in this area. The core of the book covers stationary processes, ARMA and ARIMA processes, multivariate time series and state-space models, with an optional chapter on spectral analysis. Additional topics include harmonic regression, the Burg and Hannan-Rissanen algorithms, unit roots, regression with ARMA errors, structural models, the EM algorithm, generalized state-space models with applications to time series of count data, exponential smoothing, the Holt-Winters and ARAR forecasting algorithms, transfer function models and intervention analysis. Brief introductions are also given to cointegration and to non-linear, continuous-time and long-memory models. The time series package included in the back of the book is a slightly modified version of the package ITSM, published separately as ITSM for Windows, by Springer-Verlag, 1994. It does not handle such large data sets as ITSM for Windows, but like the latter, runs on IBM-PC compatible computers under either DOS or Windows (version 3.1 or later). The programs are all menu-driven so that the reader can immediately apply the techniques in the book to time series data, with a minimal investment of time in the computational and algorithmic aspects of the analysis.

Inside the Crystal Ball - Maury Harris 2014-12-31

A practical guide to understanding economic forecasts In Inside the Crystal Ball: How to Make and Use Forecasts, UBS Chief U.S. Economist Maury Harris helps readers improve their own forecasting abilities by examining the elements and processes that characterize successful and failed forecasts. The book: Provides insights from Maury Harris, named among Bloomberg's 50 Most Influential People in Global Finance.

Demonstrates "best practices" in the assembly and evaluation of forecasts. Harris walks readers through the real-life steps he and other successful forecasters take in preparing their projections. These valuable procedures can help forecast users evaluate forecasts and forecasters as inputs for making their own specific business and investment decisions. Emphasizes the critical role of judgment in improving projections derived from purely statistical methodologies. Harris explores the prerequisites for sound forecasting judgment—a good sense of history and an understanding of contemporary theoretical frameworks—in readable and illuminating detail. Addresses everyday forecasting issues, including the credibility of government statistics and analyses, fickle consumers, and volatile business spirits. Harris also offers procedural guidelines for

special circumstances, such as natural disasters, terrorist threats, gyrating oil and stock prices, and international economic crises. Evaluates major contemporary forecasting issues—including the now commonplace hypothesis of sustained economic sluggishness, possible inflation outcomes in an environment of falling unemployment, and projecting interest rates when central banks implement unprecedented low interest rate and quantitative easing (QE) policies. Brings to life Harris's own experiences and those of other leading economists in his almost four-decade career as a professional economist and forecaster. Dr. Harris presents his personal recipes for long-term credibility and commercial success to anyone offering advice about the future.