Optimization Of Automated Trading System S Interaction

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Exploring the Strategy Space of Negotiating Agents - Tim Baarslag 2016-01-21
This book reports on an outstanding thesis that has significantly advanced the state-of-the-art in the area of automated negotiation. It gives new practical and theoretical insights into the design and evaluation of automated negotiators. It describes an innovative negotiating agent framework that enables systematic exploration of the space of possible negotiation strategies by recombining different agent components. Using this framework, new and effective ways are formulated for an agent to learn, bid, and accept during a negotiation. The findings have been evaluated in four annual instantiations of the International Automated Negotiating Agents Competition (ANAC), the results of which are also outlined here. The book also describes several methodologies for evaluating and comparing negotiation strategies and components, with a special emphasis on performance and accuracy measures.
Information Systems for Global Financial Markets: Emerging Developments and Effects - Yap, Alexander Y. 2011-11-30
"This book offers focused research on the systems and technologies that provide intelligence and expertise to traders and investors and facilitate the agile ordering processes, networking, and regulation of global

financial electronic markets"--Provided by publisher.
e-Technologies and Networks for Development - Jim James Yonazi 2011-07-18
This book constitutes the proceedings of the First International Conferences on e-Technologies and Networks for Development, ICeND 2011, held in Dar-es-Salaam, Tanzania, in August 2011. The 29 revised full papers presented were carefully reviewed and selected from 90 initial submissions. The papers address new advances in the internet technologies, networking, e-learning, software applications, Computer Systems, and digital information and data communications technologies - as well technical as practical aspects.
Internet of Things, Smart Spaces, and Next Generation Networks and Systems - Olga Galinina 2020-12-22
This book constitutes the joint refereed proceedings of the 20th International Conference on Next Generation Teletraffic and Wired/Wireless Advanced Networks and Systems, NEW2AN 2020, and the 13th Conference on Internet of Things and Smart Spaces, ruSMART 2020. The conference was held virtually due to the COVID-19 pandemic. The 79 revised full papers presented were carefully reviewed and selected from 225 submissions. The papers of NEW2AN address various aspects of next-generation data networks, with special attention to

advanced wireless networking and applications. In particular, they deal with novel and innovative approaches to performance and efficiency analysis of 5G and beyond systems, employed game-theoretical formulations, advanced queuing theory, and stochastic geometry, while also covering the Internet of Things, cyber security, optics, signal processing, as well as business aspects. ruSMART 2020, provides a forum for academic and industrial researchers to discuss new ideas and trends in the emerging areas.

Digital Science - Tatiana Antipova 2018-10-18
This book gathers the proceedings of the 2018 International Conference on Digital Science (DSIC'18), held in Budva, Montenegro, on October 19 – 21, 2018. DSIC'18 was an international forum for researchers and practitioners to present and discuss the latest innovations, trends, results, experiences and concerns in Digital Science. The main goal of the Conference was to efficiently disseminate original findings in the natural and social sciences, art & the humanities. The contributions address the following topics: Digital Agriculture & Food Technology Digital Art & Humanities Digital Economics Digital Education Digital Engineering Digital Environmental Sciences Digital Finance, Business & Banking Digital Health Care, Hospitals & Rehabilitation Digital Media Digital Medicine, Pharma & Public Health Digital Public Administration Digital Technology & Applied Sciences Digital Virtual Reality

Autonomous Intelligent Systems: Multi-Agents and Data Mining - Vladimir Gorodetsky 2007-07-23
This book constitutes the refereed proceedings of the Second International Workshop on Autonomous Intelligent Systems: Agents and Data Mining, AIS-ADM 2007, held in St. Petersburg, Russia in June 2007. The 17 revised full papers and six revised short papers presented together with four invited lectures cover agent and data mining, agent competition and data mining, as well as text mining, semantic Web, and agents.

Handbook of Mortgage Lending - Jess Lederman 1995

Artificial Intelligence: Methods and Applications - Aristidis Likas

2014-04-18
This book constitutes the proceedings of the 8th Hellenic Conference on Artificial Intelligence, SETN 2014, held in Ioannina, Greece, in May 2014. There are 34 regular papers out of 60 submissions, in addition 5 submissions were accepted as short papers and 15 papers were accepted for four special sessions. They deal with emergent topics of artificial intelligence and come from the SETN main conference as well as from the following special sessions on action languages: theory and practice; computational intelligence techniques for bio signal Analysis and evaluation; game artificial intelligence; multimodal recommendation systems and their applications to tourism.

Semantic Methods for Knowledge Management and Communication - Radosław Katarzyniak Katarzyniak 2011-08-04
The book consists of 31 chapters in which the authors deal with multiple aspects of modeling, utilization and implementation of semantic methods for knowledge management and communication in the context of human centered computing. It is assumed that the modern human centered computing requires the intensive application of these methods as well as effective integration with multiple techniques of computational collective intelligence. The book is organized in four parts devoted to the presentation of utilization of knowledge processing in agent and multiagent systems, application of computational collective intelligence to knowledge management, models for collectives of intelligent agents, and models and environments tailored directly to human-centered computing. All chapters in the book discuss theoretical and practical issues related to various models and aspects of computational techniques for semantic methods, which are currently studied and developed in many academic and industry centers over the world. The editors hope that the book can be useful for graduate and PhD students of computer science, as well as for mature academics, researchers and practitioners interested in developing of modern methods for representation, processing and distribution of knowledge in the context of human centered computing and by means of computer based information systems. It is the hope of the editors that readers of this volume can find

in all chosen chapters many inspiring ideas and influential practical examples, as well as use them in their current and future work.
5th Kuala Lumpur International Conference on Biomedical Engineering 2011 - Hua-Nong Ting 2011-06-17
The Biomed 2011 brought together academicians and practitioners in engineering and medicine in this ever progressing field. This volume presents the proceedings of this international conference which was hold in conjunction with the 8th Asian Pacific Conference on Medical and Biological Engineering (APCMBE 2011) on the 20th to the 23rd of June 2011 at Berjaya Times Square Hotel, Kuala Lumpur. The topics covered in the conference proceedings include: Artificial organs, bioengineering education, bionanotechnology, biosignal processing, bioinformatics, biomaterials, biomechanics, biomedical imaging, biomedical instrumentation, BioMEMS, clinical engineering, prosthetics.
The Evaluation and Optimization of Trading Strategies - Robert Pardo 2011-01-11
A newly expanded and updated edition of the trading classic, Design, Testing, and Optimization of Trading Systems Trading systems expert Robert Pardo is back, and in The Evaluation and Optimization of Trading Strategies, a thoroughly revised and updated edition of his classic text Design, Testing, and Optimization of Trading Systems, he reveals how he has perfected the programming and testing of trading systems using a successful battery of his own time-proven techniques. With this book, Pardo delivers important information to readers, from the design of workable trading strategies to measuring issues like profit and risk. Written in a straightforward and accessible style, this detailed guide presents traders with a way to develop and verify their trading strategy no matter what form they are currently using–stochastics, moving averages, chart patterns, RSI, or breakout methods. Whether a trader is seeking to enhance their profit or just getting started in testing, The Evaluation and Optimization of Trading Strategies offers practical instruction and expert advice on the development, evaluation, and application of winning mechanical trading systems.
Quantitative Trading - Ernest P. Chan 2009

"While institutional traders continue to implement quantitative (or algorithmic) trading, many independent traders have wondered if they can still challenge powerful industry professionals at their own game? The answer is "yes," and in Quantitative Trading, Dr. Ernest Chan, a respected independent trader and consultant, will show you how. Whether you're an independent "retail" trader looking to start your own quantitative trading business or an individual who aspires to work as a quantitative trader at a major financial institution, this practical guide contains the information you need to succeed"--Resource description page.
Professional Automated Trading - Eugene A. Durenard 2013-10-04
An insider's view of how to develop and operate an automatedproprietary trading network Reflecting author Eugene Durenard's extensive experience in thisfield, Professional Automated Trading offers valuableinsights you won't find anywhere else. It reveals how a series ofconcepts and techniques coming from current research in artificiallife and modern control theory can be applied to the design ofeffective trading systems that outperform the majority of publishedtrading systems. It also skillfully provides you with essentialinformation on the practical coding and implementation of ascalable systematic trading architecture. Based on years of practical experience in building successfulresearch and infrastructure processes for purpose of trading atseveral frequencies, this book is designed to be a comprehensiveguide for understanding the theory of design and the practice ofimplementation of an automated systematic trading process at aninstitutional scale. Discusses several classical strategies and covers the design ofefficient simulation engines for back and forward testing Provides insights on effectively implementing a series ofdistributed processes that should form the core of a robust andfault-tolerant automated systematic trading architecture Addresses trade execution optimization by studyingmarket-pressure models and minimization of costs via applicationsof execution algorithms Introduces a series of novel concepts from artificial life andmodern control theory that enhance robustness of the systematicdecision making—focusing on various

aspects of adaptation anddynamic optimal model choice Engaging and informative, Proprietary Automated Tradingcovers the most important aspects of this endeavor and will put youin a better position to excel at it.
Interactive Decision Analysis - M. Grauer 2013-03-14
During the week of September 20-23, 1983, an International Workshop on Interactive Decision Analysis and Interpretative Computer Intelligence was held at the International Institute for Applied Systems Analysis (IIASA) in Laxenburg, Austria. More than fifty scientists representing seventeen coun tries participated. The aim of the Workshop was to review existing approaches to problems involving multiple conflicting objectives, to look at methods and techniques for interactive decision analysis, and to demonstrate theuse of existing interactive decision-support systems. The Workshop was motivated, firstly, by the realization that the rapid development of computers, especially microcomputers, will greatly increase the scope and capabilities of computerized decision-support systems. It is important to explore the potential of these systems for use in handling the complex technological, environmental, economic and social problems thatface the world today. Research in decision-support systems also has another, less tangible but possibly more important, motivation. The development of efficient sys tems for decision support requires a thorough understanding of the dif ferences between the decision-making processes in different nations and cultures. An understanding of the different rationales underlying decision making is not only necessary for the development of efficient decision support systems, but is also an important factor in encouraging inter national understanding and cooperation.
An Introduction to Trading in the Financial Markets: Trading, Markets, Instruments, and Processes - R. Tee Williams 2011-02-18
Trading on the financial markets requires the mastery of many subjects, from strategies and the instruments being traded to market structures and the mechanisms that drive executions. This second of four volumes explores them all. After brief explanations of the activities associated with buying and selling, the book covers principals, agents, and the market venues in which they interact. Next come the instruments that

they buy and sell: how are they categorized and how do they act? Concluding the volume is a discussion about major processes and the ways that they vary by market and instrument. Contributing to these explanations are visual cues that guide readers through the material. Making profitable trades might not be easy, but with the help of this book they are possible. Explains the basics of investing and trading, markets, instruments, and processes. Presents major concepts with graphs and easily-understood definitions Builds upon the introduction provided by Book 1 while preparing the reader for Books 3 and 4
Human-Computer Interaction. HCI Intelligent Multimodal Interaction Environments - Julie A. Jacko 2007-08-24
Here is the third of a four-volume set that constitutes the refereed proceedings of the 12th International Conference on Human-Computer Interaction, HCII 2007, held in Beijing, China, in July 2007, jointly with eight other thematically similar conferences. It covers multimodality and conversational dialogue; adaptive, intelligent and emotional user interfaces; gesture and eye gaze recognition; and interactive TV and media.
Automated Trading with R - Chris Conlan 2016-09-28
Learn to trade algorithmically with your existing brokerage, from data management, to strategy optimization, to order execution, using free and publicly available data. Connect to your brokerage's API, and the source code is plug-and-play. Automated Trading with R explains automated trading, starting with its mathematics and moving to its computation and execution. You will gain a unique insight into the mechanics and computational considerations taken in building a back-tester, strategy optimizer, and fully functional trading platform. The platform built in this book can serve as a complete replacement for commercially available platforms used by retail traders and small funds. Software components are strictly decoupled and easily scalable, providing opportunity to substitute any data source, trading algorithm, or brokerage. This book will: Provide a flexible alternative to common strategy automation frameworks, like Tradestation, Metatrader, and CQG, to small funds and retail traders Offer an understanding of the internal mechanisms of an

automated trading system Standardize discussion and notation of real-world strategy optimization problems What You Will Learn Understand machine-learning criteria for statistical validity in the context of time-series Optimize strategies, generate real-time trading decisions, and minimize computation time while programming an automated strategy in R and using its package library Best simulate strategy performance in its specific use case to derive accurate performance estimates Understand critical real-world variables pertaining to portfolio management and performance assessment, including latency, drawdowns, varying trade size, portfolio growth, and penalization of unused capital Who This Book Is For Traders/practitioners at the retail or small fund level with at least an undergraduate background in finance or computer science; graduate level finance or data science students

Internet-based Intelligent Information Processing Systems - Robert J. Howlett 2003
The Internet/WWW has made it possible to easily access quantities of information never available before. However, both the amount of information and the variation in quality pose obstacles to the efficient use of the medium. Artificial intelligence techniques can be useful tools in this context. Intelligent systems can be applied to searching the Internet and data-mining, interpreting Internet-derived material, the humanOCoWeb interface, remote condition monitoring and many other areas. This volume presents the latest research on the interaction between intelligent systems (neural networks, adaptive and connectionist paradigms, fuzzy and rule-based systems, intelligent agents) and the Internet/WWW. It surveys both the employment of intelligent systems to facilitate and enhance the use of the Internet, and applications where the Internet is a channel through which intelligent techniques are applied. Contents: A Review of Search and Resource Discovery Techniques in Peer-to-Peer Networks (S Botros & S Waterhouse); Adaptive Content Mapping for Internet Navigation (R W Brause & M Ueberall); Flexible Queries to XML Information (E Damiani et al.); Agent-Based Hypermedia Models (W Balzano et al.); Self-Organizing Neural Networks Application for Information Organization (R Rizzo); Emotion-Orientated Intelligent Systems (T Ichimura et al.); Public Opinion Channel: A Network-Based Interactive Broadcasting System for Supporting a Knowledge-Creating Community (T Fukuhara et al.); A New Era of Intelligent E-Commerce Based on Intelligent Java Agent-Based Development Environment (iJADE) (R S T Lee); Automated Internet Trading Based on Optimized Physics Models of Markets (L Ingber & R P Mondescu); Implementing and Maintaining a Web Case-Based Reasoning System for Heating Ventilation and Air Conditioning Systems Sales Support (I Watson). Readership: Engineers, researchers, students and technical managers interested in Internet-based intelligent systems."

Bio-Inspired Computing -- Theories and Applications - Maoguo Gong 2015-12-23
This book constitutes the proceedings of the 10th International Conference on Bio-Inspired Computing: Theories and Applications, BIC-TA 2015, held in Hefei, China, in September 2015.The 63 revised full papers presented were carefully reviewed and selected from 182 submissions. The papers deal with the following main topics: evolutionary computing, neural computing, DNA computing, and membrane computing.

Communication Systems and Information Technology - Ming Ma 2011-06-21
This volume includes extended and revised versions of a set of selected papers from the International Conference on Electric and Electronics (EEIC 2011) , held on June 20-22 , 2011, which is jointly organized by Nanchang University, Springer, and IEEE IAS Nanchang Chapter. The objective of EEIC 2011 Volume 4 is to provide a major interdisciplinary forum for the presentation of new approaches from Communication Systems and Information Technology, to foster integration of the latest developments in scientific research. 137 related topic papers were selected into this volume. All the papers were reviewed by 2 program committee members and selected by the volume editor Prof. Ming Ma. We hope every participant can have a good opportunity to exchange their research ideas and results and to discuss the state of the art in the areas of the Communication Systems and Information Technology.

Breaking the Black Box - Martin J. Pring 2003
MARTIN PRING ON TECHNICAL ANALYSIS McGraw-Hill's Martin Pring on Technical Analysis series introduced individual investors to the value and legitimacy of technical analysishelped by the worldrenowned Martin Pring brand. Each book focuses on explaining and demonstrating one of the key tools of technical analysis, while the interactive CD-ROM/workbook format helps traders develop their technical analysis skills. The Martin Pring on Technical Analysis series is a compelling new chapter in supplying accurate, timely information to technical traders everywhere while, at the same time, introducing traders to the foundations and proven methods of technical analysis. Martin Pring's Breaking the Black Box shows technical traders and investors how to design, build, and apply trading systemswhether automated or mechanicalfor successfully trading in today's volatile markets. Martin Pring explains the basic ground rules and bedrock principles of technical analysis, and then builds from there with examples of several of his favorite systems. From the McClellan oscillator to proven intermarket systems of analysis, Pring explains how anyone can incorporate the benefits of technical analysis into his or her own trading program.

Multi-Agent Systems - Massimo Cossentino 2012-10-26
This book constitutes the thoroughly reviewed post-proceedings of the 9th International Workshop, EUMAS 2011, held in Maastricht, The Netherlands, in November 2011. The 16 revised full papers included in the book were carefully revised and selected from 45 submissions. This workshop is primarily intended as a European forum at which researchers and those interested in activities relating to research in the area of autonomous agents and multi-agent systems could meet, present (potentially preliminary) research results, problems, and issues in an open and informal but academic environment. The aim of this workshop was to encourage and support activity in the research and development of multi-agent systems, in academic and industrial efforts.

AI and Financial Markets - Shigeyuki Hamori 2020-07-01
Artificial intelligence (AI) is regarded as the science and technology for producing an intelligent machine, particularly, an intelligent computer program. Machine learning is an approach to realizing AI comprising a collection of statistical algorithms, of which deep learning is one such example. Due to the rapid development of computer technology, AI has been actively explored for a variety of academic and practical purposes in the context of financial markets. This book focuses on the broad topic of "AI and Financial Markets", and includes novel research associated with this topic. The book includes contributions on the application of machine learning, agent-based artificial market simulation, and other related skills to the analysis of various aspects of financial markets.

Intelligent Information and Database Systems - Jeng-Shyang Pan 2012-03-14
The three-volume set LNAI 7196, LNAI 7197 and LNAI 7198 constitutes the refereed proceedings of the 4th Asian Conference on Intelligent Information and Database Systems, ACIIDS 2012, held in Kaohsiung, Taiwan in March 2012. The 161 revised papers presented were carefully reviewed and selected from more than 472 submissions. The papers included cover the following topics: intelligent database systems, data warehouses and data mining, natural language processing and computational linguistics, semantic Web, social networks and recommendation systems, collaborative systems and applications, e-bussiness and e-commerce systems, e-learning systems, information modeling and requirements engineering, information retrieval systems, intelligent agents and multi-agent systems, intelligent information systems, intelligent internet systems, intelligent optimization techniques, object-relational DBMS, ontologies and knowledge sharing, semi-structured and XML database systems, unified modeling language and unified processes, Web services and semantic Web, computer networks and communication systems.

Agents and Data Mining Interaction - Longbing Cao 2012-01-09
This book constitutes the thoroughly refereed post-workshop proceedings of the 7th International Workshop on Agents and Data Mining Interaction, ADMI 2011, held in Taipei, Taiwan, in May 2011 in conjunction with AAMAS 2011, the 10th International Joint Conference on Autonomous Agents and Multiagent Systems. The 11 revised full

papers presented were carefully reviewed and selected from 24 submissions. The papers are organized in topical sections on agents for data mining; data mining for agents; and agent mining applications.

Stochastic Global Optimization and Its Applications with Fuzzy Adaptive Simulated Annealing - Hime Aguiar e Oliveira Junior 2012-01-26
Stochastic global optimization is a very important subject, that has applications in virtually all areas of science and technology. Therefore there is nothing more opportune than writing a book about a successful and mature algorithm that turned out to be a good tool in solving difficult problems. Here we present some techniques for solving several problems by means of Fuzzy Adaptive Simulated Annealing (Fuzzy ASA), a fuzzy-controlled version of ASA, and by ASA itself. ASA is a sophisticated global optimization algorithm that is based upon ideas of the simulated annealing paradigm, coded in the C programming language and developed to statistically find the best global fit of a nonlinear constrained, non-convex cost function over a multi-dimensional space. By presenting detailed examples of its application we want to stimulate the reader's intuition and make the use of Fuzzy ASA (or regular ASA) easier for everyone wishing to use these tools to solve problems. We kept formal mathematical requirements to a minimum and focused on continuous problems, although ASA is able to handle discrete optimization tasks as well. This book can be used by researchers and practitioners in engineering and industry, in courses on optimization for advanced undergraduate and graduate levels, and also for self-study.

Online Algorithms for the Portfolio Selection Problem - Robert Dochow 2016-05-24
Robert Dochow mathematically derives a simplified classification structure of selected types of the portfolio selection problem. He proposes two new competitive online algorithms with risk management, which he evaluates analytically. The author empirically evaluates online algorithms by a comprehensive statistical analysis. Concrete results are that follow-the-loser algorithms show the most promising performance when the objective is the maximization of return on investment and risk-adjusted performance. In addition, when the objective is the

minimization of risk, the two new algorithms with risk management show excellent performance. A prototype of a software tool for automated evaluation of algorithms for portfolio selection is given.

Balanced Automation Systems for Future Manufacturing Networks - Ángel Ortiz Bas 2010-07-10
Manufacturing and operations management paradigms are evolving toward more open and resilient spaces where innovation is driven not only by ever-changing customer needs but also by agile and fast-reacting networked structures. Flexibility, adaptability and responsiveness are properties that the next generation of systems must have in order to successfully support such new emerging trends. Customers are being attracted to be involved in Co-innovation Networks, as - proved responsiveness and agility is expected from industry ecosystems. Renewed production systems needs to be modeled, engineered and deployed in order to achieve cost-effective solutions. BASYS conferences have been developed and organized as a forum in which to share visions and research findings for innovative sustainable and knowledge-based products-services and manufacturing models. Thus, the focus of BASYS is to discuss how human actors, emergent technologies and even organizations are integrated in order to redefine the way in which the val- creation process must be conceived and realized. BASYS 2010, which was held in Valencia, Spain, proposed new approaches in automation where synergies between people, systems and organizations need to be fully exploited in order to create high added-value products and services. This book contains the selection of the papers which were accepted for presentation at the BASYS 2010 conference, covering consolidated and emerging topics of the conference scope.

Building Automated Trading Systems - Benjamin Van Vliet 2007-03-07
Over the next few years, the proprietary trading and hedge fund industries will migrate largely to automated trade selection and execution systems. Indeed, this is already happening. While several finance books provide C++ code for pricing derivatives and performing numerical calculations, none approaches the topic from a system design perspective. This book will be divided into two sections—programming

techniques and automated trading system (ATS) technology—and teach financial system design and development from the absolute ground up using Microsoft Visual C++.NET 2005. MS Visual C++.NET 2005 has been chosen as the implementation language primarily because most trading firms and large banks have developed and continue to develop their proprietary algorithms in ISO C++ and Visual C++.NET provides the greatest flexibility for incorporating these legacy algorithms into working systems. Furthermore, the .NET Framework and development environment provide the best libraries and tools for rapid development of trading systems. The first section of the book explains Visual C++.NET 2005 in detail and focuses on the required programming knowledge for automated trading system development, including object oriented design, delegates and events, enumerations, random number generation, timing and timer objects, and data management with STL.NET and .NET collections. Furthermore, since most legacy code and modeling code in the financial markets is done in ISO C++, this book looks in depth at several advanced topics relating to managed/unmanaged/COM memory management and interoperability. Further, this book provides dozens of examples illustrating the use of database connectivity with ADO.NET and an extensive treatment of SQL and FIX and XML/FIXML. Advanced programming topics such as threading, sockets, as well as using C++.NET to connect to Excel are also discussed at length and supported by examples. The second section of the book explains technological concerns and design concepts for automated trading systems. Specifically, chapters are devoted to handling real-time data feeds, managing orders in the exchange order book, position selection, and risk management. A .dll is included in the book that will emulate connection to a widely used industry API (Trading Technologies, Inc.'s XTAPI) and provide ways to test position and order management algorithms. Design patterns are presented for market taking systems based upon technical analysis as well as for market making systems using intermarket spreads. As all of the chapters revolve around computer programming for financial engineering and trading system development, this book will educate traders, financial engineers, quantitative analysts, students of quantitative finance and even experienced programmers on technological issues that revolve around development of financial applications in a Microsoft environment and the construction and implementation of real-time trading systems and tools. * Teaches financial system design and development from the ground up using Microsoft Visual C++.NET 2005. * Provides dozens of examples illustrating the programming approaches in the book * Chapters are supported by screenshots, equations, sample Excel spreadsheets, and programming code

Option Strategy Hedging and Risk Management - Brian Johnson 2017-03-25
Brian Johnson, an investment professional with over 30 years of experience, is the author of three pioneering books on options: 1) Option Strategy Risk / Return Ratios, 2) Exploiting Earnings Volatility, and 3) Option Income Strategy Trade Filters. His new in-depth (80+ page) article, Option Strategy Hedging and Risk Management, presents a comprehensive analytical framework and accompanying spreadsheet tools for managing and hedging option strategy risk. Drawing on his extensive background in option-pricing and on decades of experience in investment management and trading, Brian Johnson developed these practical techniques to hedge the unique and often overlooked risks associated with trading option strategies. These revolutionary new tools can be applied to any option strategy, in any market environment. Option Strategy Hedging and Risk Management is written in a clear, easy-to-understand fashion and explains how to apply market-specific hedging techniques, using several different hedging vehicles. Created especially for readers who have some familiarity with options, this practical guide begins with a review of position sizing, including a detailed analysis of the implicit assumptions and embedded risks that could have disastrous consequences, particularly for option traders. Chapter 2 includes a comprehensive description and analysis of the actual option strategy, position model, and trade rules that are used to create real-world option strategy hedges in the subsequent chapters. This is followed by a thorough explanation and a concrete example of how to use futures to hedge option strategy exit risk. Surprisingly, futures are not well

understood in the option community and very few traders employ this simple, effective, and virtually free hedging tool. The next two chapters present a common analytical and hedging framework that is used to identify the most cost-effective hedging solutions for an actual option strategy in a real-world market environment. The process used to identify the lowest-cost hedging solution using actual VIX call options is explained in Chapter 4, followed by the same hedging analysis using put options on the underlying security in Chapter 5. All hedging examples in the article use real-time market prices and actual analytical results. Proprietary research is included in the article to provide validation for the analytical framework. The article was written to be accessible to a wide audience, so very few mathematical formulas are provided in the text. However, several important formulas are included to facilitate the understanding of important concepts, and to provide further research opportunities for inquisitive traders. The article also includes thirty separate graphs and tables to illustrate how the tools can be used in practice. Perhaps most important, Option Strategy Hedging and Risk Management includes a download link to the accompanying Excel spreadsheet with macros designed to perform all of the position sizing and hedging calculations in the article. Chapters 1, 3, 4, and 5 all have their own dedicated tabs in the spreadsheet. The data from the article is included in the spreadsheet, which allows the reader to reproduce all of the examples from the article. All of the spreadsheet functions are automated through the use of push-button macros, making spreadsheet operation as simple as possible. Finally, Chapter 6 examines practical considerations and prospective applications of these innovative new tools.

Nature-Inspired Design of Hybrid Intelligent Systems - Patricia Melin 2016-12-08
This book highlights recent advances in the design of hybrid intelligent systems based on nature-inspired optimization and their application in areas such as intelligent control and robotics, pattern recognition, time series prediction, and optimization of complex problems. The book is divided into seven main parts, the first of which addresses theoretical aspects of and new concepts and algorithms based on type-2 and intuitionistic fuzzy logic systems. The second part focuses on neural network theory, and explores the applications of neural networks in diverse areas, such as time series prediction and pattern recognition. The book's third part presents enhancements to meta-heuristics based on fuzzy logic techniques and describes new nature-inspired optimization algorithms that employ fuzzy dynamic adaptation of parameters, while the fourth part presents diverse applications of nature-inspired optimization algorithms. In turn, the fifth part investigates applications of fuzzy logic in diverse areas, such as time series prediction and pattern recognition. The sixth part examines new optimization algorithms and their applications. Lastly, the seventh part is dedicated to the design and application of different hybrid intelligent systems.

Digital Science - Tatiana Antipova 2022-01-17
This book gathers selected papers that were submitted to the 2021 International Conference on Digital Science (DSIC 2021) that aims to make available the discussion and the publication of papers on all aspects of single and multidisciplinary research on conference topics. DSIC 2021 was held on October 15–17, 2021. An important characteristic feature of conference is the short publication time and worldwide distribution. Written by respected researchers, the book covers a range of innovative topics related to: digital economics; digital education; digital engineering; digital environmental sciences; digital finance, business and banking; digital health care, hospitals and rehabilitation; digital media; digital medicine, pharma and public health; digital public administration; digital technology and applied sciences. This book may be used for private and professional non-commercial research and classroom use (e.g., sharing the contribution by mail or in hard copy form with research colleagues for their professional non-commercial research and classroom use); for use in presentations or handouts for any level students, researchers, etc.; for the further development of authors' scientific career (e.g., by citing, and attaching contributions to job or grant application).

Quantitative Trading - Ernest P. Chan 2021-07-27

Master the lucrative discipline of quantitative trading with this insightful handbook from a master in the field In the newly revised Second Edition of Quantitative Trading: How to Build Your Own Algorithmic Trading Business, quant trading expert Dr. Ernest P. Chan shows you how to apply both time-tested and novel quantitative trading strategies to develop or improve your own trading firm. You'll discover new case studies and updated information on the application of cutting-edge machine learning investment techniques, as well as: Updated back tests on a variety of trading strategies, with included Python and R code examples A new technique on optimizing parameters with changing market regimes using machine learning. A guide to selecting the best traders and advisors to manage your money Perfect for independent retail traders seeking to start their own quantitative trading business, or investors looking to invest in such traders, this new edition of Quantitative Trading will also earn a place in the libraries of individual investors interested in exploring a career at a major financial institution.

The Science of Algorithmic Trading and Portfolio Management - Robert Kissell 2013-10-01
The Science of Algorithmic Trading and Portfolio Management, with its emphasis on algorithmic trading processes and current trading models, sits apart from others of its kind. Robert Kissell, the first author to discuss algorithmic trading across the various asset classes, provides key insights into ways to develop, test, and build trading algorithms. Readers learn how to evaluate market impact models and assess performance across algorithms, traders, and brokers, and acquire the knowledge to implement electronic trading systems. This valuable book summarizes market structure, the formation of prices, and how different participants interact with one another, including bluffing, speculating, and gambling. Readers learn the underlying details and mathematics of customized trading algorithms, as well as advanced modeling techniques to improve profitability through algorithmic trading and appropriate risk management techniques. Portfolio management topics, including quant factors and black box models, are discussed, and an accompanying website includes examples, data sets supplementing exercises in the book, and large projects. Prepares readers to evaluate market impact models and assess performance across algorithms, traders, and brokers. Helps readers design systems to manage algorithmic risk and dark pool uncertainty. Summarizes an algorithmic decision making framework to ensure consistency between investment objectives and trading objectives.

XIV International Scientific Conference "INTERAGROMASH 2021" - Alexey Beskopylny 2021-12-01
This book contains original and fundamental research papers in the following areas: engineering technologies for precision agriculture, agricultural systems management and digitalization in agriculture, logistics in agriculture, and other topics. Selected materials of the largest regional scientific event—INTERAGROMASH 2021 conference–included in this book present the results of the latest research in the areas of precision agriculture and agricultural machinery industry. The book is aimed for professionals and practitioners, for researchers, scholars, and producers. The materials presented here are used in the educational process at specific agricultural universities or during vocational training at enterprises and become an indispensable helper to farm managers in making the best agronomic decisions. The book is also useful for representatives of regional authorities, as it gives an idea of existing high-tech solutions for agriculture.

Natural Computing in Computational Finance - Anthony Brabazon 2010-07-11
The chapters in this book illustrate the application of a range of cutting-edge natural computing and agent-based methodologies in computational finance and economics. The eleven chapters were selected following a rigorous, peer-reviewed, selection process.

Innovations in Multi-Agent Systems and Application – 1 - Dipti Srinivasan 2010-08-10
This book provides an overview of multi-agent systems and several applications that have been developed for real-world problems. Multi-agent systems is an area of distributed artificial intelligence that emphasizes the joint behaviors of agents with some degree of autonomy

and the complexities arising from their interactions. Multi-agent systems allow the subproblems of a constraint satisfaction problem to be subcontracted to different problem solving agents with their own interest and goals. This increases the speed, creates parallelism and reduces the risk of system collapse on a single point of failure. Different multi-agent architectures, that are tailor-made for a specific application are possible. They are able to synergistically combine the various computational intelligent techniques for attaining a superior performance. This gives an opportunity for bringing the advantages of various techniques into a single framework. It also provides the freedom to model the behavior of the system to be as competitive or coordinating, each having its own advantages and disadvantages.

Human Computer Interaction Using Hand Gestures - Prashan Premaratne 2014-03-20
Human computer interaction (HCI) plays a vital role in bridging the 'Digital Divide', bringing people closer to consumer electronics control in the 'lounge'. Keyboards and mouse or remotes do alienate old and new generations alike from control interfaces. Hand Gesture Recognition systems bring hope of connecting people with machines in a natural way. This will lead to consumers being able to use their hands naturally to communicate with any electronic equipment in their 'lounge.' This monograph will include the state of the art hand gesture recognition approaches and how they evolved from their inception. The author would also detail his research in this area for the past 8 years and how the future might turn out to be using HCI. This monograph will serve as a valuable guide for researchers (who would endeavour into) in the world of HCI.

Industrial Communication Systems - Bogdan M. Wilamowski 2018-10-03
The Industrial Electronics Handbook, Second Edition, Industrial Communications Systems combines traditional and newer, more specialized knowledge that helps industrial electronics engineers develop practical solutions for the design and implementation of high-power applications. Embracing the broad technological scope of the field, this collection explores fundamental areas, including analog and digital circuits, electronics, electromagnetic machines, signal processing, and industrial control and communications systems. It also facilitates the use of intelligent systems—such as neural networks, fuzzy systems, and evolutionary methods—in terms of a hierarchical structure that makes factory control and supervision more efficient by addressing the needs of all production components. Enhancing its value, this fully updated collection presents research and global trends as published in the IEEE Transactions on Industrial Electronics Journal, one of the largest and most respected publications in the field. Modern communication systems in factories use many different—and increasingly sophisticated—systems to send and receive information. Industrial Communication Systems spans the full gamut of concepts that engineers require to maintain a well-designed, reliable communications system that can ensure successful operation of any production process. Delving into the subject, this volume covers: Technical principles Application-specific areas Technologies Internet programming Outlook, including trends and expected challenges Other volumes in the set: Fundamentals of Industrial Electronics Power Electronics and Motor Drives Control and Mechatronics Intelligent Systems

Perspectives in Business Informatics Research - Peter Forbrig 2010-09-27
This book constitutes the refereed proceedings of the 9th International Conference on Perspectives in Business Informatics Research (BIR) in Rostock, Germany, in September 2010. The 14 full and 4 short papers accepted for BIR were selected from 53 submissions. They are organized in topical sessions on knowledge and information management; ontologies; models and workflows; business information systems; and databases and mobile computing .