# Selected Papers Of Hirotugu Akaike

Traffic and Granular Flow '17
Papers from CAMDA ’00
Proceedings of ELM-2015 Volume 2
Theory, Algorithms and Applications (II)
Studying Tree Responses to Extreme Events
Engineering for Extremes
30th Benelux Conference, BNAIC 2018, ‘s-Hertogenbosch, The Netherlands, November 8–9, 2018, Revised Selected Papers
Time Series Modeling for Analysis and Control
11th Mexican Conference, MCPR 2019, Querétaro, Mexico, June 26–29, 2019, Proceedings
Statistical Analysis and the Identification Problem
Methods of Microarray Data Analysis
Intelligent Human Computer Interaction
Statistical Analysis and Control of Dynamic Systems
Risk and Asset Allocation
Modelling, Dosimetry and Radiation Protection, Volume II
5th International Conference, TMPA 2019, Tbilisi, Georgia, November 7–9, 2019, Revised Selected Papers
Novel Approaches in Microbiome Analyses and Data Visualization
A Practical Information-Theoretic Approach
Time Series Analysis and Applications to Geophysical Systems
Artificial Intelligence Trends in Intelligent Systems
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Advanced Autopilot and Monitoring Systems
The Geography of Mobility, Wellbeing and Development in China
A Primer on Evidence
Prenatal Stress and Child Development
Complex Systems Science in Biomedicine
Age, Period and Cohort Effects
10th International Conference, IHCI 2018, Allahabad, India, December 7–9, 2018, Proceedings
Second Symposium, SoMMA 2020, Chennai, India, October 14–17, 2020, Revised Selected Papers
Advances in Computational Intelligence Systems
Indexation and Causation of Financial Markets
Fundamentals and Applications
Machine Learning and Metaheuristics Algorithms, and Applications
Handbook of Nuclear Medicine and Molecular Imaging for Physicists
Prediction and Analysis for Knowledge Representation and Machine Learning
Spectral Analysis and Its Applications
16th International Workshop on Security, IWSEC 2021, Virtual Event, September 8–10, 2021, Proceedings
Model Based Inference in the Life Sciences

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## YOSELIN AMARIS

*Traffic and Granular Flow '17* Springer Nature
This book presents 57 peer-reviewed papers from the 12th Conference on Traffic and Granular Flow (TGF) held in Washington, DC, in July 2017. It offers a unique synthesis of the latest scientific findings made by researchers from different countries, institutions and disciplines. The research fields covered range from physics, computer science and engineering and they may be all grouped under the topic of "Traffic and Granular Flow". The main theme of the Conference was: "From Molecular Interactions to Internet of Things and Smart Cities: The Role of Technology in the Understanding and the Evolution of Particle Dynamics".
**Papers from CAMDA '00** Routledge
This book constitutes the refereed proceedings of the 5th International Conference on Tools and Methods for Program Analysis, TMPA 2019, held in Tbilisi, Georgia, in November 2019. The 14 revised full papers and 2 revised short papers presented together with one keynote paper were carefully reviewed and selected from 41 submissions. The papers deal with topics such as software test automation, static program analysis, verification, dynamic methods of program analysis, testing and analysis of parallel and distributed systems, testing and analysis of high-load and high-availability systems, analysis and verification of hardware and software systems, methods of building quality software, tools for software analysis, testing and verification.
Proceedings of ELM-2015 Volume 2 Springer Science & Business Media
This book constitutes the refereed proceedings of the 12th Portuguese Conference on Artificial Intelligence, EPIA 2005, held in Covilhã, Portugal in December 2005 as nine integrated workshops. The 58 revised full papers presented were carefully reviewed and selected from a total of 167 submissions. In accordance with the nine constituting workshops, the papers are organized in topical sections on general artificial intelligence (GAIW 2005), affective computing (AC 2005), artificial life and evolutionary algorithms (ALEA 2005), building and applying ontologies for the semantic Web (BAOSW 2005), computational methods in bioinformatics (CMB 2005), extracting knowledge from databases and warehouses (EKDB&W 2005), intelligent robotics (IROBOT 2005), multi-agent systems: theory and applications (MASTA 2005), and text mining and applications (TEMA 2005).
*Theory, Algorithms and Applications (II)* Springer Nature
This textbook introduces a science philosophy called "information theoretic" based on Kullback-Leibler information theory. It focuses on a science philosophy based on "multiple working hypotheses" and statistical models to represent them. The text is written for people new to the information-theoretic approaches to statistical inference, whether graduate students, post-docs, or professionals. Readers are however expected to have a background in general statistical principles, regression analysis, and some exposure to likelihood methods. This is not an elementary text as it assumes reasonable competence in modeling and parameter estimation.
*Studying Tree Responses to Extreme Events* Springer Science & Business Media
This book presents multivariate time series methods for the analysis and optimal control of feedback systems. Although ships' autopilot systems are considered through the entire book, the methods set forth in this book can be applied to many other complicated, large, or noisy feedback control systems for which it is difficult to derive a model of the entire system based on theory in that subject area. The basic models used in this method are the multivariate autoregressive model with exogenous variables (ARX) model and the radial bases function net-type coefficients ARX model. The noise contribution analysis can then be performed through the estimated autoregressive (AR) model and various types of autopilot systems can be designed through the state–space representation of the models. The marine autopilot systems addressed in this book include optimal controllers for course-keeping motion, rolling reduction controllers with rudder motion, engine governor controllers, noise adaptive autopilots, route-tracking controllers by direct steering, and the reference course-setting approach. The methods presented here are exemplified with real data analysis and experiments on real ships. This book is highly recommended to readers who are interested in designing optimal or adaptive controllers not only of ships but also of any other complicated systems under noisy disturbance conditions.
Engineering for Extremes Springer Science & Business Media
Part of a two volume set based on a recent IMA program of the same name. The goal of the program and these books is to develop a community of statistical and other scientists kept up-to-date on developments in this quickly evolving and interdisciplinary field. Consequently, these books present recent material by distinguished researchers. Topics discussed in Part I include nonlinear and non-Gaussian models and processes (higher order moments and spectra, nonlinear systems, applications in astronomy, geophysics, engineering, and simulation) and the interaction of time series analysis and statistics (information model identification, categorical valued time series, nonparametric and semiparametric methods). Self-similar processes and long-range dependence (time series with long memory, fractals, 1/f noise, stable noise) and time series research common to engineers and economists (modeling of multivariate and possibly non-stationary time series, state space and adaptive methods) are discussed in Part II.
30th Benelux Conference, BNAIC 2018, 's-Hertogenbosch, The Netherlands, November 8–9, 2018, Revised Selected Papers Emerson Adams PressInc
Bayesian Statistical Methods provides data scientists with the foundational and computational tools needed to carry out a Bayesian analysis. This book focuses on Bayesian methods applied routinely in practice including multiple linear regression, mixed effects models and generalized linear models (GLM). The authors include many examples with complete R code and comparisons with analogous frequentist procedures. In addition to the basic concepts of Bayesian inferential methods, the book covers many general topics: Advice on selecting prior distributions Computational methods including Markov chain Monte Carlo (MCMC) Model-comparison and goodness-of-fit measures, including sensitivity to priors Frequentist properties of Bayesian methods Case studies covering advanced topics illustrate the flexibility of the Bayesian approach: Semiparametric regression Handling of missing data using predictive distributions Priors for high-dimensional regression models

Computational techniques for large datasets Spatial data analysis The advanced topics are presented with sufficient conceptual depth that the reader will be able to carry out such analysis and argue the relative merits of Bayesian and classical methods. A repository of R code, motivating data sets, and complete data analyses are available on the book's website. Brian J. Reich, Associate Professor of Statistics at North Carolina State University, is currently the editor-in-chief of the Journal of Agricultural, Biological, and Environmental Statistics and was awarded the LeRoy & Elva Martin Teaching Award. Sujit K. Ghosh, Professor of Statistics at North Carolina State University, has over 22 years of research and teaching experience in conducting Bayesian analyses, received the Cavell Brownie mentoring award, and served as the Deputy Director at the Statistical and Applied Mathematical Sciences Institute.

*Time Series Modeling for Analysis and Control* CRC Press

Highly useful text studies logarithmic measures of information and their application to testing statistical hypotheses. Includes numerous worked examples and problems. References. Glossary. Appendix. 1968 2nd, revised edition.

*11th Mexican Conference, MCPR 2019, Querétaro, Mexico, June 26–29, 2019, Proceedings* Springer

This book constitutes the refereed proceedings of the Second Symposium on Machine Learning and Metaheuristics Algorithms, and Applications, SoMMA 2020, held in Chennai, India, in October 2020. Due to the COVID-19 pandemic the conference was held online. The 12 full papers and 7 short papers presented in this volume were thoroughly reviewed and selected from 40 qualified submissions. The papers cover such topics as machine learning, artificial intelligence, Internet of Things, modeling and simulation, disctibuted computing methodologies, computer graphics, etc.

*Statistical Analysis and the Identification Problem* Cambridge University Press

This book contains a selection of the best papers of the 30th Benelux Conference on Artificial Intelligence, BNAIC 2018, held in 's-Hertogenbosch, The Netherlands, in November 2018. The 9 full papers and 3 short papers presented in this volume were carefully reviewed and selected from 31 submissions. They address various aspects of artificial intelligence such as natural language processing, agent technology, game theory, problem solving, machine learning, human-agent interaction, AI and education, and data analysis.

Methods of Microarray Data Analysis Springer Science & Business Media

Trees are among the longest-living organisms. They are sensitive to extreme climatic events and document the effects of environmental changes in form of structural modifications of their tissues. These modifications represent an integrated signal of complex biological responses enforced by the environment. For example, temporal change in stem increment integrates multiple information of tree performance, and wood anatomical traits may be altered by climatic extremes or environmental stress. Recent developments in preparative tools and computational image analysis enable to quantify changes in wood anatomical features, like vessel density or vessel size. Thus, impacts on their functioning can be related to climatic forcing factors. Similarly, new developments in monitoring (cambial) phenology and mechanistic modelling are enlightening the interrelationships between environmental factors, wood formation and tree performance and mortality. Quantitative wood anatomy is a reliable indicator of drought occurrence during the growing season, and therefore has been studied intensively in recent years. The variability in wood anatomy not only alters the biological and hydraulic functioning of a tree, but may also influence the technological properties of wood, with substantial impacts in forestry. On a larger scale, alterations of sapwood and phloem area and their ratios to other functional traits provide measures to detect changes in a tree's life functions, and increasing risk of drought-induced mortality with possible impacts on hydrological processes and species composition of plant communities. Genetic variability within and across populations is assumed to be crucial for species survival in an unpredictable future world. The magnitude of genetic variation and heritability of adaptive traits might define the ability to adapt to climate change. Is there a relation between genetic variability and resilience to climate change? Is it possible to link genetic expression and climate change to obtain deeper knowledge of functional genetics? To derive precise estimates of genetic determinism it is important to define adaptive traits in wood properties and on a whole-tree scale. Understanding the mechanisms ruling these processes is fundamental to assess the impact of extreme climate events on forest ecosystems, and to provide realistic scenarios of tree responses to changing climates. Wood is also a major carbon sink with a long-term residence, impacting the global carbon cycle. How well do we understand the link between wood growth dynamics, wood carbon allocation and the global carbon cycle? Papers contribution to this Research Topic will cover a wide range of ecosystems. However, special relevance will be given to Mediterranean-type areas. These involve coastal regions of four continents, making Mediterranean-type ecosystems extremely interesting for investigating the potential impacts of global change on growth and for studying responses of woody plants under extreme environmental conditions. For example, the ongoing trend towards warmer temperatures and reduced precipitation can increase the susceptibility to fire and pests. The EU-funded COST Action STREeSS (Studying Tree Responses to extreme Events: a SynthesiS) addresses such crucial tree biological and forest ecological issues by providing a collection of important methodological and scientific insights, about the current state of knowledge, and by opinions for future research needs.

**Intelligent Human Computer Interaction** Springer Nature

A unique and comprehensive text on the philosophy of model-based data analysis and strategy for the analysis of empirical data. The book introduces information theoretic approaches and focuses critical attention on a priori modeling and the selection of a good approximating model that best represents the inference supported by the data. It contains several new approaches to estimating model selection uncertainty and incorporating selection uncertainty into estimates of precision. An array of examples is given to illustrate various technical issues. The text has been written for biologists and statisticians using models for making inferences from empirical data.

Statistical Analysis and Control of Dynamic Systems Frontiers Media SA

A number of approaches are being defined for statistics and machine learning. These approaches are used for the identification of the process of the system and the models created from the system's perceived data, assisting scientists in the generation or refinement of current models. Machine learning is being studied extensively in science, particularly in bioinformatics, economics, social sciences, ecology, and climate science, but learning from data individually needs to be researched more for complex scenarios. Advanced knowledge representation approaches that can capture structural and process properties are necessary to provide meaningful knowledge to machine learning algorithms. It has a significant impact on comprehending difficult scientific

problems. Prediction and Analysis for Knowledge Representation and Machine Learning demonstrates various knowledge representation and machine learning methodologies and architectures that will be active in the research field. The approaches are reviewed with real-life examples from a wide range of research topics. An understanding of a number of techniques and algorithms that are implemented in knowledge representation in machine learning is available through the book's website. Features: Examines the representational adequacy of needed knowledge representation Manipulates inferential adequacy for knowledge representation in order to produce new knowledge derived from the original information Improves inferential and acquisition efficiency by applying automatic methods to acquire new knowledge Covers the major challenges, concerns, and breakthroughs in knowledge representation and machine learning using the most up-to-date technology Describes the ideas of knowledge representation and related technologies, as well as their applications, in order to help humankind become better and smarter This book serves as a reference book for researchers and practitioners who are working in the field of information technology and computer science in knowledge representation and machine learning for both basic and advanced concepts. Nowadays, it has become essential to develop adaptive, robust, scalable, and reliable applications and also design solutions for day-to-day problems. The edited book will be helpful for industry people and will also help beginners as well as high-level users for learning the latest things, which includes both basic and advanced concepts.

*Risk and Asset Allocation* Springer Nature

Complex Systems Science in Biomedicine Thomas S. Deisboeck and J. Yasha Kresh Complex Systems Science in Biomedicine covers the emerging field of systems science involving the application of physics, mathematics, engineering and computational methods and techniques to the study of biomedicine including nonlinear dynamics at the molecular, cellular, multi-cellular tissue, and organismic level. With all chapters helmed by leading scientists in the field, Complex Systems Science in Biomedicine's goal is to offer its audience a timely compendium of the ongoing research directed to the understanding of biological processes as whole systems instead of as isolated component parts. In Parts I & II, Complex Systems Science in Biomedicine provides a general systems thinking perspective and presents some of the fundamental theoretical underpinnings of this rapidly emerging field. Part III then follows with a multi-scaled approach, spanning from the molecular to macroscopic level, exemplified by studying such diverse areas as molecular networks and developmental processes, the immune and nervous systems, the heart, cancer and multi-organ failure. The volume concludes with Part IV that addresses methods and techniques driven in design and development by this new understanding of biomedical science. Key Topics Include: • Historic Perspectives of General Systems Thinking • Fundamental Methods and Techniques for Studying Complex Dynamical Systems • Applications from Molecular Networks to Disease Processes • Enabling Technologies for Exploration of Systems in the Life Sciences Complex Systems Science in Biomedicine is essential reading for experimental, theoretical, and interdisciplinary scientists working in the biomedical research field interested in a comprehensive overview of this rapidly emerging field. About the Editors: Thomas S. Deisboeck is currently Assistant Professor of Radiology at Massachusetts General Hospital and Harvard Medical School in Boston. An expert in interdisciplinary cancer modeling, Dr. Deisboeck is Director of the Complex Biosystems Modeling Laboratory which is part of the Harvard-MIT Martinos Center for Biomedical Imaging. J. Yasha Kresh is currently Professor of Cardiothoracic Surgery and Research Director, Professor of Medicine and Director of Cardiovascular Biophysics at the Drexel University College of Medicine. An expert in dynamical systems, he holds appointments in the School of Biomedical Engineering and Health Systems, Dept. of Mechanical Engineering and Molecular Pathobiology Program. Prof. Kresh is Fellow of the American College of Cardiology, American Heart Association, Biomedical Engineering Society, American Institute for Medical and Biological Engineering.

**Modelling, Dosimetry and Radiation Protection, Volume II** Springer

This book presents a new statistical method of constructing a price index of a financial asset where the price distributions are skewed and heavy-tailed and investigates the effectiveness of the method. In order to fully reflect the movements of prices or returns on a financial asset, the index should reflect their distributions. However, they are often heavy-tailed and possibly skewed, and identifying them directly is not easy. This book first develops an index construction method depending on the price distributions, by using nonstationary time series analysis. Firstly, the long-term trend of the distributions of the optimal Box–Cox transformed prices is estimated by fitting a trend model with time-varying observation noises. By applying state space modeling, the estimation is performed and missing observations are automatically interpolated. Finally, the index is defined by taking the inverse Box–Cox transformation of the optimal long-term trend. This book applies the method to various financial data. For example, applying it to the sovereign credit default swap market where the number of observations varies over time due to the immaturity, the spillover effects of the financial crisis are detected by using the power contribution analysis measuring the information flows between indices. The investigations show that applying this method to the markets with insufficient information such as fast-growing or immature markets can be effective.

*5th International Conference, TMPA 2019, Tbilisi, Georgia, November 7–9, 2019, Revised Selected Papers* Selected Papers of Hirotugu Akaike

This book constitutes the thoroughly refereed proceedings of the 10th International Conference on Intelligent Human Computer Interaction, IHCI 2018, held in Allahabad, India, in December 2018. The 28 regular papers presented were carefully reviewed and selected from 89 submissions. The papers have been organized in the following topical sections: ECG, EEG -based and Other Multimodal Interactions; Natural Language, Speech and Dialogue Processing; Modeling Human Cognitive Processes and Simulation; Image and Vision Based Interactions; and Applications of HCI.

Novel Approaches in Microbiome Analyses and Data Visualization Springer Nature

Microarray technology is a major experimental tool for functional genomic explorations, and will continue to be a major tool throughout this decade and beyond. The recent explosion of this technology threatens to overwhelm the scientific community with massive quantities of data. Because microarray data analysis is an emerging field, very few analytical models currently exist. Methods of Microarray Data Analysis is one of the first books dedicated to this exciting new field. In a single reference, readers can learn about the most up-to-date methods ranging from data normalization, feature selection and discriminative analysis to machine learning techniques. Currently, there are no standard procedures for the design and analysis of microarray experiments. Methods of Microarray Data Analysis focuses on two well-known data sets, using a different method

of analysis in each chapter. Real examples expose the strengths and weaknesses of each method for a given situation, aimed at helping readers choose appropriate protocols and utilize them for their own data set. In addition, web links are provided to the programs and tools discussed in several chapters. This book is an excellent reference not only for academic and industrial researchers, but also for core bioinformatics/genomics courses in undergraduate and graduate programs.

A Practical Information-Theoretic Approach Routledge

This book presents new methods and approaches to real-world problems as well as exploratory research that describes novel artificial intelligence applications, including deep learning, neural networks and hybrid algorithms. This book constitutes the refereed proceedings of the Artificial Intelligence Trends in Intelligent Systems Section of the 6th Computer Science On-line Conference 2017 (CSOC 2017), held in April 2017.

*Time Series Analysis and Applications to Geophysical Systems* CRC Press

This book presents recent developments in statistical methodologies with particular relevance to applications in forestry and environmental sciences. It discusses important methodologies like ranked set sampling, adaptive cluster sampling, small area estimation, calibration approach-based estimators, design of experiments, multivariate techniques, Internet of Things, and ridge regression methods. It also covers the history of the implementation of statistical techniques in Indian forestry and the National Forest Inventory of India. The book is a valuable resource for applied statisticians, students, researchers, and practitioners in the forestry and environment sector. It includes real-world examples and case studies to help readers apply the techniques discussed. It also motivates academicians and researchers to use new technologies in the areas of forestry and environmental sciences with the help of software like R, MATLAB, Statistica, and Mathematica.

*Artificial Intelligence Trends in Intelligent Systems* Springer Science & Business Media

Age, Period and Cohort Effects: Statistical Analysis and the Identification Problem gives a number of perspectives from top methodologists and applied researchers on the best ways to attempt to answer Age–Period–Cohort related questions about society. Age–Period–Cohort (APC) analysis is a fundamental topic for any quantitative social scientist studying individuals over time. At the same time, it is also one of the most misunderstood and underestimated topics in quantitative methods. As such, this book is key reference material for researchers wanting to know how to deal with APC issues appropriately in their statistical modelling. It deals with the identification problem caused by the co-linearity of the three variables, considers why some currently used methods are problematic and suggests ideas for what applied researchers interested in APC analysis should do. Whilst the perspectives are varied, the book provides a unified view of the subject in a reader-friendly way that will be accessible to social scientists with a moderate level of quantitative understanding, across the social and health sciences.

Best Sellers - Books :
• Think And Grow Rich: The Landmark Bestseller Now Revised And Updated For The 21st Century (think And Grow Rich Series) By Napoleon Hill
• It Starts With Us: A Novel (2) (it Ends With Us)
• America's Cultural Revolution: How The Radical Left Conquered Everything
• Mad Honey: A Novel
• The 48 Laws Of Power By Robert Greene
• Oh, The Places You'll Go!
• Twisted Hate (twisted, 3) By Ana Huang
• The Collector: A Novel By Daniel Silva
• The Mountain Is You: Transforming Self-sabotage Into Self-mastery
• Tucker