Maps Models And The Structure Of Reality Nlp Technology In Psychotherapy

Structural, Syntactic, and Statistical Pattern RecognitionConceptual Structures for Knowledge Creation and CommunicationThe Wiley-Blackwell Handbook of Individual DifferencesLocal Homotopy TheoryRendering Techniques 2001Algorithms in BioinformaticsProceedings of the 1993 Connectionist Models Summer SchoolModels of Neural Networks IVModels of Neural Networks IIIBiophysical Methods for BiotherapeuticsSelected Readings on Strategic Information SystemsModeling and Control of Engines and DrivelinesRobotics ResearchLandscape Ecology and Resource ManagementSelf-organizing Map FormationOedipus and BeyondRediscovering PaulComputational Methods for Protein Structure Prediction and ModelingIssues in Life Sciences: Molecular Biology: 2011 EditionKnowledge IntegrationMonitoring and Safety Evaluation of Existing Concrete StructuresAlgorithmic Foundations of Robotics VIAdvances in Self-Organizing MapsThe Integration of Phonetic Knowledge in Speech TechnologyTeaching about the FutureIntegration of Geographic Information Systems and Remote SensingUltrashort Laser Pulses in Biology and MedicineComputational NeuroscienceNeural Networks and Animal BehaviorThe State of the Art in Computational IntelligenceHow Maps WorkPractical BioinformaticsComputational Maps in the Visual CortexThe Homotopy Theory of (?,1)-CategoriesData-Driven Modeling Using Spherical Self-Organizing Feature MapsThe Construction of Cognitive MapsInformation VisualizationProtein Structure and FunctionChaos: A Very Short IntroductionCarbonate Petroleum Reservoirs

Structural, Syntactic, and Statistical Pattern Recognition

Proceedings of the Annual Computational Neuroscience Conference held in Boston, Massachusetts, July 14-17, 1996

Conceptual Structures for Knowledge Creation and Communication

This book contains the proceedings of the lih Eurographics Workshop on Rendering, th which took place from the 25 to the 27th of June, 2001, in London, United Kingdom. Over the past 11 years, the workshop has become the premier forum dedicated to research in rendering. Much of the work in rendering now appearing in other conferences and journals builds on ideas originally presented at the workshop. This year we received a total of 74 submissions. Each paper was carefully reviewed by two of the 28 international programme committee members, as well as external reviewers, selected by the co-chairs from a pool of 125 individuals. In this review process, all submissions and reviews were handled electronically, with the exception of videos submitted with a few of the papers. The overall quality of the submissions was exceptionally high. Space and time constraints forced the committee to make some difficult decisions. In the end, 29 by papers were accepted,

and they appear here. Almost all papers are accompanied color images, which appear at the end of the book. The papers treat the following varied topics: methods for local and global illumination, techniques for acquisition and modeling from images, image-based rendering, new image representations, hardware assisted methods, shadow algorithms, visibility, perception, texturing, and filtering. Each year, in addition to the reviewed contributions, the workshop includes invited presentations from internationally recognized experts.

The Wiley-Blackwell Handbook of Individual Differences

Computational Intelligence is a very dynamic domain of modern information society which integrates fields such as neural networks, fuzzy systems, evolutionary computation and intelligent systems in general. The book presents papers from the Euro-International Symposium on Computational Intelligence held in Kosice (Slovak Republic) in August 2000. It contains theoretical studies along with a chapter on applications and case studies. One of the main results of the symposium is that the combination of various techniques into hybrid intelligent systems will be very important for the development of intelligent information systems in the 21st century. The book also contains interesting forewords written by L.A. Zadeh, D.E. Goldberg, and K. Fukushima.

Local Homotopy Theory

Now available in paperback for the first time, this classic work presents a cognitive-semiotic framework for understanding how maps work as powerful, abstract, and synthetic spatial representations. Explored are the ways in which the many representational choices inherent in mapping interact with information processing and knowledge construction, and how the resulting insights can be used to make informed symbolization and design decisions. A new preface to the paperback edition situates the book within the context of contemporary technologies. As the nature of maps continues to evolve, Alan MacEachren emphasizes the ongoing need to think systematically about the ways people interact with and use spatial information.

Rendering Techniques 2001

Chaos exists in systems all around us. Even the simplest system of cause and effect can be subject to chaos, denying us accurate predictions of its behaviour, and sometimes giving rise to astonishing structures of large-scale order. Our growing understanding of Chaos Theory is having fascinating applications in the real world - from technology to global warming, politics, human behaviour, and even gambling on the stock market. Leonard Smith shows that we all have an intuitive understanding of chaotic systems. He uses accessible maths and physics (replacing complex equations with simple

examples like pendulums, railway lines, and tossing coins) to explain the theory, and points to numerous examples in philosophy and literature (Edgar Allen Poe, Chang-Tzu, Arthur Conan Doyle) that illuminate the problems. The beauty of fractal patterns and their relation to chaos, as well as the history of chaos, and its uses in the real world and implications for the philosophy of science are all discussed in this Very Short Introduction. ABOUT THE SERIES: The Very Short Introductions series from Oxford University Press contains hundreds of titles in almost every subject area. These pocket-sized books are the perfect way to get ahead in a new subject quickly. Our expert authors combine facts, analysis, perspective, new ideas, and enthusiasm to make interesting and challenging topics highly readable.

Algorithms in Bioinformatics

The faculty at the University of Houston's program in Futures Studies share their comprehensive, integrated approach to preparing foresight professionals and assisting others doing foresight projects. Provides an essential guide to developing classes on the future or even establishing whole degree programs.

Proceedings of the 1993 Connectionist Models Summer School

Continued progress in Speech Technology in the face of ever-increasing demands on the performance levels of applications is a challenge to the whole speech and language science community. Robust recognition and understanding of spontaneous speech in varied environments, good comprehensibility and naturalness of expressive speech synthesis are goals that cannot be achieved without a change of paradigm. This book argues for interdisciplinary communication and cooperation in problem-solving in general, and discusses the interaction between speech and language engineering and phonetics in particular. With a number of reports on innovative speech technology research as well as more theoretical discussions, it addresses the practical, scientific and sometimes the philosophical problems that stand in the way of cross-disciplinary collaboration and illuminates some of the many possible ways forward. Audience: Researchers and professionals in speech technology and computational linguists.

Models of Neural Networks IV

Each title in the 'Primers in Biology' series is constructed on a modular principle that is intended to make them easy to teach from, to learn from, and to use for reference.

Models of Neural Networks III

An introductory treatment to the homotopy theory of homotopical categories, presenting several models and comparisons between them.

Biophysical Methods for Biotherapeutics

Selected Readings on Strategic Information Systems

The Wiley-Blackwell Handbook of Individual Differences provides a comprehensive, up-to-date overview of recent research, current perspectives, practical applications, and likely future developments in individual differences. Brings together the work of the top global researchers within the area of individual differences, including Philip L. Ackerman, Ian J. Deary, Ed Diener, Robert Hogan, Deniz S. Ones and Dean Keith Simonton Covers methodological, theoretical and paradigm changes in the area of individual differences Individual chapters cover core areas of individual differences including personality and intelligence, biological causes of individual differences, and creativity and emotional intelligence

Modeling and Control of Engines and Drivelines

Bridges the gap between bioinformaticists and molecular biologists, i.e. the developers and the users of computational methods for biological data analysis and in that it presents examples of practical applications of the bioinformatics tools in the "daily practice" of an experimental research scientist.

Robotics Research

The case history approach has an impressive record of success in a variety of disciplines. Collections of case histories, casebooks, are now widely used in all sorts of specialties other than in their familiar application to law and medicine. The case method had its formal beginning at Harvard in 1871 when Christopher Lagdell developed it as a means of teaching. It was so successful in teaching law that it was soon adopted in medical education, and the col lection of cases provided the raw material for research on various diseases. Subsequently, the case history approach spread to such varied fields as busi ness, psychology, management, and economics, and there are over 100 books in print that use this approach. The idea for a series of Casebooks in Earth Sciences grew from my ex perience in organizing and editing a collection of examples of one variety of sedimentary deposits. The project began as an effort to bring some order to a large number of descriptions of these deposits that were so varied in pre sentation and terminology that even specialists found them difficult to compare and analyze. Thus, from the beginning, it was evident that something more than a simple collection of papers was needed.

Accordingly, the nearly fifty contributors worked together with George de Vries Klein and me to establish a standard format for presenting the case histories.

Landscape Ecology and Resource Management

Control systems have come to play an important role in the performance of modern vehicles with regards to meeting goals on low emissions and low fuel consumption. To achieve these goals, modeling, simulation, and analysis have become standard tools for the development of control systems in the automotive industry. Modeling and Control of Engines and Drivelines provides an up-to-date treatment of the topic from a clear perspective of systems engineering and control systems, which are at the core of vehicle design. This book has three main goals. The first is to provide a thorough understanding of component models as building blocks. It has therefore been important to provide measurements from real processes, to explain the underlying physics, to describe the modeling considerations, and to validate the resulting models experimentally. Second, the authors show how the models are used in the current design of control and diagnosis systems. These system designs are never used in isolation, so the third goal is to provide a complete setting for system integration and evaluation, including complete vehicle models together with actual requirements and driving cycle analysis. Key features: Covers signals, systems, and control in modern vehicles Covers the basic dynamics of internal combustion engines and drivelines Provides a set of standard models and includes examples and case studies Covers turbo- and super-charging, and automotive dependability and diagnosis Accompanied by a web site hosting example models and problems and solutions Modeling and Control of Engines and Drivelines is a comprehensive reference for graduate students and the authors' close collaboration with the automotive industry ensures that the knowledge and skills that practicing engineers need when analysing and developing new powertrain systems are also covered.

Self-organizing Map Formation

How can we make better sense of animal behavior by using what we know about the brain? This is the first book that attempts to answer this important question by applying neural network theory. Scientists create Artificial Neural Networks (ANNs) to make models of the brain. These networks mimic the architecture of a nervous system by connecting elementary neuron-like units into networks in which they stimulate or inhibit each other's activity in much the same way neurons do. This book shows how scientists can employ ANNs to analyze animal behavior, explore the general principles of the nervous systems, and test potential generalizations among species. The authors focus on simple neural networks to show how ANNs can be investigated by math and by computers. They demonstrate intuitive concepts that make the operation of neural networks more accessible to nonspecialists. The first chapter introduces various approaches to animal behavior and provides an informal introduction to neural networks, their history, and their potential advantages. The second chapter

reviews artificial neural networks, including biological foundations, techniques, and applications. The following three chapters apply neural networks to such topics as learning and development, classical instrumental condition, and the role of genes in building brain networks. The book concludes by comparing neural networks to other approaches. It will appeal to students of animal behavior in many disciplines. It will also interest neurobiologists, cognitive scientists, and those from other fields who wish to learn more about animal behavior.

Oedipus and Beyond

With a focus on practical applications of biophysical techniques, this book links fundamental biophysics to the process of biopharmaceutical development. • Helps formulation and analytical scientists in pharma and biotech better understand and use biophysical methods • Chapters organized according to the sequential nature of the drug development process • Helps formulation, analytical, and bioanalytical scientists in pharma and biotech better understand and usestrengths and limitations of biophysical methods • Explains how to use biophysical methods, the information obtained, and what needs to be presented in a regulatory filing, assess impact on quality and immunogenicity • With a focus on practical applications of biophysical techniques, this book links fundamental biophysics to the process of biopharmaceutical development.

Rediscovering Paul

This book constitutes the refereed proceedings of the 4th International Workshop on Algorithms in Bioinformatics, WABI 2004, held in Bergen, Norway, in September 2004. The 39 revised full papers presented were carefully reviewed and selected from 117 submissions. Among the topics addressed are all current issues of algorithms in bioinformatics, such as exact and approximate algorithms for genomics, genetics, sequence analysis, gene and signal recognition, alignment, molecular evolution, phylogenetics, structure determination or prediction, gene expression and gene networks, proteomics, functional genomics, and drug design.

Computational Methods for Protein Structure Prediction and Modeling

This collection of articles by leading researchers in neural networks responds to the urgent need for timely and comprehensive reviews in a multidisciplinary, rapidly developing field of research. It continues the themes of the previous volume, but shifts its focus to more practical matters, such as data storage and retrieval, and the recognition of handwriting.

Issues in Life Sciences: Molecular Biology: 2011 Edition

Landscape Ecology and Resource Management bridges the gap between the science of landscape ecology and on-the-ground land and resource management, relating the theory and empirical research within landscape ecology to the practical needs of resource managers. It offers both a conceptual foundation of applicable and operational theory and case-study examples that address ways in which political, economic, and social factors influence the use of landscape ecology and other data-based science around the world.Contributors focus on links between theory and practice, between small-scale and large-scale, and between humans and nature. Specific linkages examined include:landscape patterns and biological realitytop-down effects and organismsthe indicator species concept and conservation effortsthe concept of fitness landscapes and the behavior and distribution of animalsbody mass patterns and wildlife conservationChapters feature examples of interactions between people and landscapes in boreal, central, and Mediterranean Europe; northern Australia; and Eastern Africa; along with case studies from central Europe, North America, and South America that show how theory and application can be linked in a variety of situations with varying management constraints.Landscape Ecology and Resource Management is the first book of its kind to focus on the linkages between the theory of landscape ecology and the practice of resource management, and will play an important role both in advancing landscape ecology as a science and in incorporating its ideas into management efforts.

Knowledge Integration

Volume One of this two-volume sequence focuses on the basic characterization of known protein structures, and structure prediction from protein sequence information. Eleven chapters survey of the field, covering key topics in modeling, force fields, classification, computational methods, and structure prediction. Each chapter is a self contained review covering definition of the problem and historical perspective; mathematical formulation; computational methods and algorithms; performance results; existing software; strengths, pitfalls, challenges, and future research.

Monitoring and Safety Evaluation of Existing Concrete Structures

Robot algorithms are abstractions of computational processes that control or reason about motion and perception in the physical world. Because actions in the physical world are subject to physical laws and geometric constraints, the design and analysis of robot algorithms raise a unique combination of questions in control theory, computational and differential geometry, and computer science. Algorithms serve as a unifying theme in the multi-disciplinary field of robotics. This volume consists of selected contributions to the sixth Workshop on the Algorithmic Foundations of Robotics. This is a highly competitive meeting of experts in the field of algorithmic issues related to robotics and automation.

Algorithmic Foundations of Robotics VI

The condition assessment of aged structures is becoming a more and more important issue for civil infrastructure management systems. The continued use of existing systems is, due to environmental, economical and socio-political assets, of great significance and is growing larger every year. Thus the extent of necessary repair of damaged reinforced concrete structures is of major concern in most countries today. Monitoring techniques may have a decisive input to limit expenditures for maintenance and repair of existing structures. Modern test and measurement methods as well as computational mechanics open the door for a wide variety of monitoring applications. The need for quantitative and qualitative knowledge has led to the development and improvement of surveillance techniques, which have already found successful application in other disciplines such as medicine, physics and chemistry. The design of experimental test and measurement systems is inherently an interdisciplinary activity. The specification of the instrumentation to measure the structural response will involve the skills of civil, electrical and computer engineers. The main aim of fib Commission 5, Structural servicer life aspects, is to provide a rational procedure to obtain an optimal technical-economic performance of concrete structures in service and to ensure a feedback of experience gained to design, execution, maintenance and rehabilitation. Against this background fib Task Group 5.1 Monitoring and Safety Evaluation of Existing Concrete Structures had been established to evaluate the existing practice worldwide. The objective of this state-of-art report is to summarize the most important inspection and measuring methods, to describe the working process and to evaluate the applicability to structural monitoring. Particular emphasis is placed upon non-destructive systems, lifetime monitoring, data evaluation and safety aspects.

Advances in Self-Organizing Maps

Learn about the many biological and medical applications of ultrashort laser pulses. The authors highlight and explain how the briefness of these laser pulses permits the tracing of even the fastest processes in photo-active bio-systems. They also present a variety of applications that rely on the high peak intensity of ultrashort laser pulses. Easy-to-follow examples cover non-linear imaging techniques, optical tomography, and laser surgery.

The Integration of Phonetic Knowledge in Speech Technology

Researchers and data analysts are increasingly relying on graphical tools to assist them in modeling their data, generating their hypotheses, and gaining deeper insights on their experimentally acquired data. Recent advances in technology have made available more improved and novel modeling and analysis media that facilitate intuitive, task-driven exploratory analysis and manipulation of the displayed graphical representations. In order to utilize these emerging technologies researchers must be able to transform experimentally acquired data vectors into a visual form or secondary representation that has a simple structure and, is easily transferable into the media. As well, it is essential that it can be modified or

manipulated within the display environment. This thesis presents a data-driven modeling technique that utilizes the basic learning strategy of an unsupervised clustering algorithm, called the self-organizing feature map, to adaptively learn topological associations inherent in the data and preserve them within the topology imposed by its predefined spherical lattice, thereby transforming the data into a 3D tessellated form. The tessellated graphical forms originate from a sphere thereby simplifying the process of computing its transformation parameters on re-orientation within an interactive, task-driven, graphical display medium. A variety of data sets including six sets of scattered 3D coordinate data, chaotic attractor data, the more commonly used Fisher s Iris flower data, medical numeric data, geographic and environmental data are used to illustrate the data-driven modeling and visualization mechanism. The modeling algorithm is first applied to scattered 3D coordinate data to understand the influence of the spherical topology on data organization. Two cases are examined, one in which the integrity of the spherical lattice is maintained during learning and, the second, in which the inter-node connections in the spherical lattice are adaptively changed during learning. In the analysis, scattered coordinate data of freeform objects with topology equivalent to a sphere and those whose topology is not equivalent to a sphere are used. Experiments demonstrate that it is possible to get reasonably good results with the degree of resemblance, determined by an average of the total normalized error measure, ranging from 6.2x10-5 1.1x10-3. The experimental analysis using scattered coordinate data facilitates an understanding of the algorithm and provides evidence of the topology-preserving capability of the spherical self-organizing feature map. The algorithm is later implemented using abstract, seemingly random, numeric data. Unlike in the case of 3D coordinate data, wherein the SOFM lattice is in the same coordinate frame (domain) as the input vectors, the numeric data is abstract. The criterion for deforming the spherical lattice is determined using mathematical and statistical functions as measures-of information that are tailored to reflect some aspect of meaningful, tangible, inter-vector relationships or associations embedded in the spatial data that reveal some physical aspect of the data. These measures are largely application-dependent and need to be defined by the data analyst or an expert. Interpretation of the resulting 3D tessellated graphical representation or form (glyph) is more complex and task dependent as compared to that of scattered coordinate data. Very simple measures are used in this analysis in order to facilitate discussion of the underlying mechanism to transform abstract numeric data into 3D graphical forms or glyphs. Several data sets are used in the analysis to illustrate how novel characteristics hidden in the data, and not easily apparent in the string of numbers, can be reflected via 3D graphical forms. The proposed data-driven modeling approach provides a viable mechanism to generate 3D tessellated representations of data that can be easily transferred to a graphical modeling and ana

Teaching about the Future

In the process he illuminates the roles of the Oedipus complex, the drives, the unconscious, and psychic structure in shaping the sensibilities of alternative psychoanalytic approaches. Greenberg does not attempt to synthesize the two

models, because he believes that diversity is essential if psychoanalysis is to remain strong. Instead, he proposes a compelling and practical clinical theory in which Freud's insistence on the importance of inner motivation, psychic conflict, and personal agency effectively informs a relational emphasis on the fundamental influence of social living. The book concludes with some apt illustrations of how the "representational model" can enrich clinical work. Greenberg rethinks the process of making the unconscious conscious, and arrives at new approaches to the analyst's neutrality, to transference analysis, and to countertransference.

Integration of Geographic Information Systems and Remote Sensing

The result of the 1993 Connectionist Models Summer School, the papers in this volume exemplify the tremendous breadth and depth of research underway in the field of neural networks. Although the slant of the summer school has always leaned toward cognitive science and artificial intelligence, the diverse scientific backgrounds and research interests of accepted students and invited faculty reflect the broad spectrum of areas contributing to neural networks, including artificial intelligence, cognitive science, computer science, engineering, mathematics, neuroscience, and physics. Providing an accurate picture of the state of the art in this fast-moving field, the proceedings of this intense two-week program of lectures, workshops, and informal discussions contains timely and high-quality work by the best and the brightest in the neural networks field.

Ultrashort Laser Pulses in Biology and Medicine

ISRR, the "International Symposium on Robotics Research", is one of robotics' pioneering symposia, which has established some of the field's most fundamental and lasting contributions over the past two decades. This book presents the results of the eleventh edition of "Robotics Research" ISRR03, offering a broad range of topics in robotics. The contributions provide a wide coverage of the current state of robotics research: the advances and challenges in its theoretical foundation and technology basis, and the developments in its traditional and new emerging areas of applications. The diversity, novelty, and span of the work unfolding in these areas reveal the field's increased maturity and expanded scope, and define the state of the art of robotics and its future direction.

Computational Neuroscience

"This book offers research articles on key issues concerning information technology in support of the strategic management of organizations"--Provided by publisher.

Neural Networks and Animal Behavior

and processes which are exclusive to humans in their encoding, storing, decoding and retrieving spatial knowledge for various tasks. The authors present and discuss connectionist models of cognitive maps which are based on local representation, versus models which are based on distributed representation, as well as connectionist models concerning language and spatial relations. As is well known, Gibson's (1979) ecological approach suggests a view on cognition which is diametrically different from the classical main stream view: perception (and thus cognition) is direct, immediate and needs no internal information processing, and is thus essentially an external process of interaction between an organism and its external environment. The chapter by Harry Heft introduces J. J. Gibson's ecological approach and its implication to the construction of cognitive maps in general and to the issue of wayfinding in particular. According to Heft, main stream cognitive sciences are essentially Cartesian in nature and have not as yet internalized the implications of Darwin's theory of evolution. Gibson, in his ecological approach, has tried to do exactly this. The author introduces the basic terminology of the ecological approach and relates its various notions, in particular optic flow, nested hierarchy and affordances, to navigation and the way routes and places in the environment are learned.

The State of the Art in Computational Intelligence

Issues in Life Sciences: Molecular Biology / 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Life Sciences—Molecular Biology. The editors have built Issues in Life Sciences: Molecular Biology: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Life Sciences—Molecular Biology in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Life Sciences: Molecular Biology: 2011 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.

How Maps Work

The book constitutes the refereed proceedings of the 11th International Conference on Conceptual Structures, ICCS 2003, held in Dresden, Germany in July 2003. The 23 revised full papers presented together with 5 invited papers were carefully reviewed and selected for presentation. The papers are organized in topical sections on the many facets of conceptual structures, logical and linguistic aspects, conceptual representation of time and space, deepening the formal theory and

applications of conceptual structures.

Practical Bioinformatics

The ability to manage knowledge is relevant for millions of small and medium sized enterprises (SMEs) that operate in high-tech environments. They strongly depend on external knowledge about customers, technologies, and competitors because, as opposed to large companies, they have limited internal knowledge resources and little power to control their business environments. Present KM literature, however, mainly focuses on large companies and therefore does not explain, how SMEs, for example, can successfully apply groupware, data mining, semantic networks, and knowledge maps. This book addresses this problem by introducing the concept of knowledge integration (KI) that places emphasis on the identification, acquisition and use of external knowledge. Drawing from this theoretical basis, the book presents concepts and instruments specifically designed for SMEs, as well as examples of their implementation and use in practice.

Computational Maps in the Visual Cortex

Information visualization is not only about creating graphical displays of complex and latent information structures. It also contributes to a broader range of cognitive, social, and collaborative activities. This is the first book to examine information visualization from this perspective. This 2nd edition continues the unique and ambitious quest for setting information visualization and virtual environments in a unifying framework. It pays special attention to the advances made over the last 5 years and potentially fruitful directions to pursue. It is particularly updated to meet the need for practitioners. The book is a valuable source for researchers and graduate students.

The Homotopy Theory of (?,1)-Categories

In this groundbreaking work, Norman R. Petersen integrates contemporary literary-critical, sociological,and anthropological insights into the traditional arena of historical-critical methods. he demonstrates how these new approaches can be used to interpret biblical texts, especially Paul's letters. The Letter to Philemon serves as a case study. Yet Petersen focuses on the narrative world of Paul as well, for one cannot be truly understood without the other. This work articulates a sociology of letters, explores the social structures which underlie the social relations of the actors in Paul's world, and deals with the systems of belief, knowledge, and value that define the identities of these actors and motivate their actions. Here is cutting-edge scholarship.

Data-Driven Modeling Using Spherical Self-Organizing Feature Maps

Applications of remote sensing and geographic information systems to resource management and environmental research.

The Construction of Cognitive Maps

This monograph on the homotopy theory of topologized diagrams of spaces and spectra gives an expert account of a subject at the foundation of motivic homotopy theory and the theory of topological modular forms in stable homotopy theory. Beginning with an introduction to the homotopy theory of simplicial sets and topos theory, the book covers core topics such as the unstable homotopy theory of simplicial presheaves and sheaves, localized theories, cocycles, descent theory, non-abelian cohomology, stacks, and local stable homotopy theory. A detailed treatment of the formalism of the subject is interwoven with explanations of the motivation, development, and nuances of ideas and results. The coherence of the abstract theory is elucidated through the use of widely applicable tools, such as Barr's theorem on Boolean localization, model structures on the category of simplicial presheaves on a site, and cocycle categories. A wealth of concrete examples convey the vitality and importance of the subject in topology, number theory, algebraic geometry, and algebraic K-theory. Assuming basic knowledge of algebraic geometry and homotopy theory, Local Homotopy Theory will appeal to researchers and advanced graduate students seeking to understand and advance the applications of homotopy theory in multiple areas of mathematics and the mathematical sciences.

Information Visualization

Self-organizing maps (SOMs) were developed by Teuvo Kohonen in the early eighties. Since then more than 10,000 works have been based on SOMs. SOMs are unsupervised neural networks useful for clustering and visualization purposes. Many SOM applications have been developed in engineering and science, and other fields. This book contains refereed papers presented at the 9th Workshop on Self-Organizing Maps (WSOM 2012) held at the Universidad de Chile, Santiago, Chile, on December 12-14, 2012. The workshop brought together researchers and practitioners in the field of self-organizing systems. Among the book chapters there are excellent examples of the use of SOMs in agriculture, computer science, data visualization, health systems, economics, engineering, social sciences, text and image analysis, and time series analysis. Other chapters present the latest theoretical work on SOMs as well as Learning Vector Quantization (LVQ) methods.

Protein Structure and Function

This book provides an overview of self-organizing map formation, including recent developments. Self-organizing maps form a branch of unsupervised learning, which is the study of what can be determined about the statistical properties of input data without explicit feedback from a teacher. The articles are drawn from the journal Neural Computation.The book

consists of five sections. The first section looks at attempts to model the organization of cortical maps and at the theory and applications of the related artificial neural network algorithms. The second section analyzes topographic maps and their formation via objective functions. The third section discusses cortical maps of stimulus features. The fourth section discusses self-organizing maps for unsupervised data analysis. The fifth section discusses extensions of self-organizing maps, including two surprising applications of mapping algorithms to standard computer science problems: combinatorial optimization and sorting. Contributors J. J. Atick, H. G. Barrow, H. U. Bauer, C. M. Bishop, H. J. Bray, J. Bruske, J. M. L. Budd, M. Budinich, V. Cherkassky, J. Cowan, R. Durbin, E. Erwin, G. J. Goodhill, T. Graepel, D. Grier, S. Kaski, T. Kohonen, H. Lappalainen, Z. Li, J. Lin, R. Linsker, S. P. Luttrell, D. J. C. MacKay, K. D. Miller, G. Mitchison, F. Mulier, K. Obermayer, C. Piepenbrock, H. Ritter, K. Schulten, T. J. Sejnowski, S. Smirnakis, G. Sommer, M. Svensen, R. Szeliski, A. Utsugi, C. K. I. Williams, L. Wiskott, L. Xu, A. Yuille, J. Zhang

Chaos: A Very Short Introduction

For more than 30 years, the visual cortex has been the source of new theories and ideas about how the brain processes information. The visual cortex is easily accessible through a variety of recording and imagining techniques and allows mapping of high level behavior relatively directly to neural mechanisms. Understanding the computations in the visual cortex is therefore an important step toward a general theory of computational brain theory.

Carbonate Petroleum Reservoirs

This volume, with chapters by leading researchers in the field, is devoted to early vision and attention, that is, to the first stages of visual information processing. This state-of-the-art look at biological neural networks spans the many subfields, such as computational and experimental neuroscience; anatomy and physiology; visual information processing and scene segmentation; perception at illusory contours; control of visual attention; and paradigms for computing with spiking neurons.

ROMANCE ACTION & ADVENTURE MYSTERY & THRILLER BIOGRAPHIES & HISTORY CHILDREN'S YOUNG ADULT FANTASY HISTORICAL FICTION HORROR LITERARY FICTION NON-FICTION SCIENCE FICTION