Neco2014result

Advances in Digital Technologies

The use of digital information and web technologies is now essential to all our lives on a daily basis. In particular, web technologies that enable easy access to digital information in all its forms and regardless of the user’s purpose are extremely important. This book presents papers from the 7th International Conference on Applications of Digital Information and Web Technologies (ICADIWT 2016), held in Keelung City, Taiwan, in March 2016. The conference, which has been organized since 2008, is aimed at building the infrastructure necessary for the large-scale development of web technologies, and attracts participants from many countries who attend the conference to demonstrate and discuss their research findings. The 19 full papers presented at the conference have been arranged into 5 sections: networking; fuzzy systems; intelligent information systems; data communication and protection; and cloud computing. Subjects covered fall under areas such as Internet communication, technologies and software; digital communication software and networks; the Internet of things; databases and applications; and many more. The book will be of interest to all those whose work involves the application of digital information and web technologies.

Osteosarcoma

This book reviews the brilliant progress made in the past three decades in clinical outcomes for osteosarcoma patients treated with a multidisciplinary approach, including limb-salvage surgery combined with neoadjuvant multidrug chemotherapy and aggressive management of pulmonary metastasis. Osteosarcoma was a miserable disease for adolescents and young adults until the early 1970s, with a survival rate that was less than 10–15% even after amputation for affected limbs because of the progression of pulmonary metastasis. With the development of neoadjuvant chemotherapy for osteosarcoma, including high-dose methotrexate, doxorubicin, cisplatin, and ifosfamide during the late 1970s and the 1980s, however, the prognosis has dramatically improved. Limb-salvage surgery for patients with extremity osteosarcoma is now a gold-standard surgical procedure for more than 90% of patients with localized disease. Additionally, aggressive pulmonary metastasectomy for patients with lung metastasis from osteosarcoma has contributed to improvement of their survival. More recently, carbon-ion radiotherapy has also been introduced for patients with unresectable osteosarcoma of the trunk, as in the spine and pelvis. In this volume the author provides valuable descriptions of an important new treatment modality for a multidisciplinary approach for osteosarcoma patients.

Encyclopedic Turkish Film Lexicon, 1914-2014

The performance of most tasks with one hand, typically the right, is a uniquely human characteristic. Not only do people prefer to use one hand rather than the other, but also they usually perform tasks faster and more accurately with this hand. The study of manual asymmetries and what such performance differences between the two hands reveal about brain organization and motor function has been a topic of considerable research over the last several decades. The aim of this Research Topic is to review and further explore the origins of manual asymmetries and their relationship to handedness, unimanual and bimanual motor performance, and brain function. The articles included here involve original research conducted in humans or non-human models species, as well as theoretical perspectives, review articles, and meta-analyses.

Manual Asymmetries, Handedness and Motor Performance

The term \"neuromechanics\" defines an integrative approach that combines the neuromuscular control and

the biomechanical aspects of physical behavior in humans and animals. Crucial to this approach is a detailed description and modeling of the interaction between the nervous system and the controlled biomechanical plant. Only then do we have the broader context within which to understand evolution, movement mechanics, neural control, energetics, disability and rehabilitation. In addition to enabling new basic science directions, understanding the interrelations between movement neural and mechanical function should also be leveraged for the development of personalized wearable technologies to augment or restore the motor capabilities of healthy or impaired individuals. Similarly, this understanding will empower us to revisit current approaches to the design and control of robotic and humanoid systems to produce truly versatile human-like physical behavior and adaptation in real-world environments. This Research Topic is therefore poised at an opportune moment to promote understanding of apparently disparate topics into a coherent focus.

Neuromechanics and Control of Physical Behavior: from Experimental and Computational Formulations to Bio-inspired Technologies

Provides a comprehensive account of current research in computational linguistics, Fully revised and updated throughout, including 37 new chapters, Features an extended glossary to explain key terms and concepts Book jacket.

The Oxford Handbook of Computational Linguistics

Academic Paper from the year 2021 in the subject Pedagogy - School Pedagogics, , course: Accounting Technology, language: English, abstract: This study aimed at finding out the “Effect of Using Learning Management System on Academic Performance of Students on Financial Accounting in Secondary Schools in Bauchi State”. Four specific objectives, four research questions and four related null hypotheses were formulated. The research design adopted was a quasi-experimental design. With a population of 10,790 secondary schools students II that are offering FA in Bauchi State. Purposive sampling technique was used in the selection of the students where the sample size was 240 students and also Purposive sampling technique was used in selecting the experimental and control groups. Mean and standard deviation were used to answer the four research questions. Independent sample t-test was used to test null hypothesis one and four while paired sample t-test was used in testing the null hypotheses two and three, all null hypotheses were tested at 0.05 level of significance. The findings of the study revealed among others, that there was a significant difference in the achievement of the students of SSS II taught FA using LMS tool compared to those taught using Conventional method. It was concluded that LMS is effective in teaching FA for better students’ academic performance in secondary school. Based on this finding, it was recommended among others that teachers should intensify efforts in the use of LMS tool in teaching FA in secondary schools in Bauchi State.

Effect of using learning Management System on academic Performance of Students in financial Accounting in Secondary School in Bauchi State

Although nonlinear dynamics have been mastered by physicists and mathematicians for a long time (as most physical systems are inherently nonlinear in nature), the recent successful application of nonlinear methods to modeling and predicting several evolutionary, ecological, physiological, and biochemical processes has generated great interest and enthusiasm among researchers in computational neuroscience and cognitive psychology. Additionally, in the last years it has been demonstrated that nonlinear analysis can be successfully used to model not only basic cellular and molecular data but also complex cognitive processes and behavioral interactions. The theoretical features of nonlinear systems (such unstable periodic orbits, period-doubling bifurcations and phase space dynamics) have already been successfully applied by several research groups to analyze the behavior of a variety of neuronal and cognitive processes. Additionally the concept of strange attractors has lead to a new understanding of information processing which considers higher cognitive functions (such as language, attention, memory and decision making) as complex systems emerging from the dynamic interaction between parallel streams of information flowing between highly

interconnected neuronal clusters organized in a widely distributed circuit and modulated by key central nodes. Furthermore, the paradigm of self-organization derived from the nonlinear dynamics theory has offered an interesting account of the phenomenon of emergence of new complex cognitive structures from random and non-deterministic patterns, similarly to what has been previously observed in nonlinear studies of fluid dynamics. Finally, the challenges of coupling massive amount of data related to brain function generated from new research fields in experimental neuroscience (such as magnetoencephalography, optogenetics and single-cell intra-operative recordings of neuronal activity) have generated the necessity of new research strategies which incorporate complex pattern analysis as an important feature of their algorithms. Up to now nonlinear dynamics has already been successfully employed to model both basic single and multiple neurons activity (such as single-cell firing patterns, neural networks synchronization, autonomic activity, electroencephalographic measurements, and noise modulation in the cerebellum), as well as higher cognitive functions and complex psychiatric disorders. Similarly, previous experimental studies have suggested that several cognitive functions can be successfully modeled with basis on the transient activity of large-scale brain networks in the presence of noise. Such studies have demonstrated that it is possible to represent typical decision-making paradigms of neuroeconomics by dynamic models governed by ordinary differential equations with a finite number of possibilities at the decision points and basic heuristic rules which incorporate variable degrees of uncertainty. This e-book has include frontline research in computational neuroscience and cognitive psychology involving applications of nonlinear analysis, especially regarding the representation and modeling of complex neural and cognitive systems. Several experts teams around the world have provided frontline theoretical and experimental contributions (as well as reviews, perspectives and commentaries) in the fields of nonlinear modeling of cognitive systems, chaotic dynamics in computational neuroscience, fractal analysis of biological brain data, nonlinear dynamics in neural networks research, nonlinear and fuzzy logics in complex neural systems, nonlinear analysis of psychiatric disorders and dynamic modeling of sensorimotor coordination. Rather than a comprehensive compilation of the possible topics in neuroscience and cognitive research to which non-linear may be used, this e-book intends to provide some illustrative examples of the broad range of

Nonlinear Analysis in Neuroscience and Behavioral Research

Data analysis is an important part of modern business administration, as efficient compilation of information allows managers and business leaders to make the best decisions for the financial solvency of their organizations. Understanding the use of analytics, reporting, and data mining in everyday business environments is imperative to the success of modern businesses. Business Intelligence: Concepts, Methodologies, Tools, and Applications presents a comprehensive examination of business data analytics along with case studies and practical applications for businesses in a variety of fields and corporate arenas. Focusing on topics and issues such as critical success factors, technology adaptation, agile development approaches, fuzzy logic tools, and best practices in business process management, this multivolume reference is of particular use to business analysts, investors, corporate managers, and entrepreneurs in a variety of prominent industries.

Business Intelligence: Concepts, Methodologies, Tools, and Applications

Hearing is dependent on neural processing of acoustic cues obtained by the left and right ears. Neural signals driven by the two ears are integrated at multiple levels of the central auditory system, which enables animals including humans to perform various functions including localization of a sound source. A natural listening environment typically contains sounds from multiple sources. These sounds can have different spectral and temporal features and occur at either the same or different time. Integration can happen among neural signals elicited by the same or different sounds. The way of integration can greatly affect how individual sounds are sensed and perceived. Functions such as auditory grouping and stream segregation, which are central to establishing coherent auditory images in a complex listening environment, are highly dependent on the way of integration. Binaural hearing is complicated by individual differences and developmental changes in head and pinna shape/size as binaural cues can be affected by these differences and changes. Furthermore, neural

processing of binaural cues can be influenced by hearing impairments and the use of hearing aids and cochlear implants. These factors likely require a listener to optimize the use of binaural cues through learning and to use plastic changes in the nervous system to perform the optimization. Great strides have been made in understanding binaural processing in normal and impaired auditory systems. This Research Topic aims to highlight some of the latest findings in the following areas: 1) Animal behavioral and human psychoacoustical studies of binaural hearing; 2) Neural encoding and processing of binaural cues and structural as well as neurophysiological bases of such encoding and processing; 3) Contribution of binaural neural processing to auditory functions such as sound-source localization, binaural fusion, binaural interference, spatial release from masking, auditory grouping, and auditory stream segregation; 4) Computational models of binaural processing; 5) Learning and plastic changes in binaural processing following hearing loss or alterations of acoustic environment and structural as well as physiological bases of these behavioral changes; 6) Clinical aspects of binaural processing including application of processing strategies, including research on the benefits of bilateral cochlear implantation, and the neural correlates thereof

Artificial Intelligence Applications in Nuclear Energy

WISDOM eBook, produced by Wisdom Consultancy Ltd, is full of wisdom to be gleaned for a victorious living. It has interesting and informative human angle and general interests' stories, personality interviews, historical articles and Bible-led faith stories of personal encounters. This edition features a superlative celebration of over 80 years of a unique leader, Otunba Michael Adepetun Adeyemi, and inspiring articles on wisdom, nuggets for successful living and an exclusive expose of the Nigerian (Yoruba) culture.

Criticality in neural network behavior and its implications for computational processing in healthy and perturbed conditions

Optimized interaction of the brain with environment requires the four-dimensional representation of space-time in the neuronal circuits. Information processing is an important part of this interaction, which is critically dependent on time-dimension. Information processing has played an important role in the evolution of mammals, and has reached a level of critical importance in the lives of primates, particularly the humans. The entanglement of time-dimension with information processing in the brain is not clearly understood at present. Time-dimension in physical world – the environment of an organism – can be represented by the interval of a pendulum swing (the cover page depicts temporal unit with the help of a swinging pendulum). Temporal units in neural processes are represented by regular activities of pacemaker neurons, tonic regular activities of proprioceptors and periodic fluctuations in the excitability of neurons underlying brain oscillations. Moreover, temporal units may be representationally associated with time-bins containing bits of information (see the Editorial), which may be studied to understand the entanglement of time-dimension with neural information processing. The optimized interaction of the brain with environment requires the calibration of neural temporal units. Neural temporal units are calibrated as a result of feedback processes occurring during the interaction of an organism with environment. Understanding the role of time-dimension in the brain information processing requires a multidisciplinary approach, which would include psychophysics, single cell studies and brain recordings. Although this Special Issue has helped us move forward on some fronts, including theoretical understanding of calibration of time-information in neural circuits, and the role of brain oscillations in timing functions and integration of asynchronous sensory information, further advancements are needed by developing correct computational tools to resolve the relationship between dynamic, hierarchical neural oscillatory structures that form during the brain’s interaction with environment.

Listening with Two Ears – New Insights and Perspectives in Binaural Research

The visual system consists of hierarchically organized distinct anatomical areas functionally specialized for processing different aspects of a visual object (Felleman & Van Essen, 1991). These visual areas are

interconnected through ascending feedforward projections, descending feedback projections, and projections from neural structures at the same hierarchical level (Lamme et al., 1998). Accumulating evidence from anatomical, functional and theoretical studies suggests that these three projections play fundamentally different roles in perception. However, their distinct functional roles in visual processing are still subject to debate (Lamme & Roelfsema, 2000). The focus of this Research Topic is the roles of feedforward and feedback projections in vision. Even though the notions of feedforward, feedback, and reentrant processing are widely accepted, it has been found difficult to distinguish their individual roles on the basis of a single criterion. We welcome empirical contributions, theoretical contributions and reviews that fit into any one (or a combination) of the following domains: 1) their functional roles for perception of specific features of a visual object 2) their contributions to the distinct modes of visual processing (e.g., pre-attentive vs. attentive, conscious vs. unconscious) 3) recent techniques/methodologies to identify distinct functional roles of feedforward and feedback projections and corresponding neural signatures. We believe that the current Research Topic will not only provide recent information about feedforward/feedback processes in vision but also contribute to the understanding fundamental principles of cortical processing in general.

WISDOM

Collaborative innovation networks are cyberteams of motivated individuals, and are self-organizing emergent social systems with the potential to promote health, happiness and individual growth in real-world work settings. This book describes how to identify and nurture collaborative innovation networks in order to shape the future working environment and pave the way for health and happiness, and how to develop future technologies to promote economic development, social innovation and entrepreneurship. The expert contributions and case studies presented also offer insights into how large corporations can creatively generate solutions to real-world problems by means of self-organizing mechanisms, while simultaneously promoting the well-being of individual workers. The book also discusses how such networks can benefit startups, offering new self-organizing forms of leadership in which all stakeholders are encouraged to collaborate in the development of new products.

Understanding the Role of Time-Dimension in the Brain Information Processing

Modern neural networks gave rise to major breakthroughs in several research areas. In neuroscience, we are witnessing a reappraisal of neural network theory and its relevance for understanding information processing in biological systems. The research presented in this book provides various perspectives on the use of artificial neural networks as models of neural information processing. We consider the biological plausibility of neural networks, performance improvements, spiking neural networks and the use of neural networks for understanding brain function.

Feedforward and Feedback Processes in Vision

The Answer Key is the teaching tool for The Chronological Bible Workbook. This publication provides a way to check the accuracy of answers for those who want to use The Chronological Bible Workbook in a small group, home school or traditional bible class setting. The charts are all completed and the same links to maps and photos are provided. Additional information has also been included to help stimulate class discussion.

Collaborative Innovation Networks

This book shares important findings on the application of robotics in industry using advanced mechanisms, including software and hardware. It presents a collection of recent trends and research on various advanced computing paradigms such as soft computing, robotics, smart automation, power control, and uncertainty analysis. The book constitutes the proceedings of the 1st International Conference on Application of Robotics in Industry using Advanced Mechanisms (ARIAM2019), which offered a platform for sharing original

research findings, presenting innovative ideas and applications, and comparing notes on various aspects of robotics. The contributions highlight the latest research and industrial applications of robotics, and discuss approaches to improving the smooth functioning of industries. Moreover, they focus on designing solutions for complex engineering problems and designing system components or processes to meet specific needs, with due considerations for public health and safety, including cultural, societal, and environmental considerations. Taken together, they offer a valuable resource for researchers, scientists, engineers, professionals and students alike.

Artificial Neural Networks as Models of Neural Information Processing

This book presents selected articles from the International Conference on Asian and Pacific Coasts (APAC 2019), an event intended to promote academic and technical exchange on coastal related studies, including coastal engineering and coastal environmental problems, among Asian and Pacific countries/regions. APAC is jointly supported by the Chinese Ocean Engineering Society (COES), the Coastal Engineering Committee of the Japan Society of Civil Engineers (JSCE), and the Korean Society of Coastal and Ocean Engineers (KSCOE). APAC is jointly supported by the Chinese Ocean Engineering Society (COES), the Coastal Engineering Committee of the Japan Society of Civil Engineers (JSCE), and the Korean Society of Coastal and Ocean Engineers (KSCOE).

The Answer Key for the Chronological Bible Workbook

One of the most striking properties of biological systems is their ability to learn and adapt to ever changing environmental conditions, tasks and stimuli. It emerges from a number of different forms of plasticity, that change the properties of the computing substrate, mainly acting on the modification of the strength of synaptic connections that gate the flow of information across neurons. Plasticity is an essential ingredient for building artificial autonomous cognitive agents that can learn to reliably and meaningfully interact with the real world. For this reason, the neuromorphic community at large has put substantial effort in the design of different forms of plasticity and in putting them to practical use. These plasticity forms comprise, among others, Short Term Depression and Facilitation, Homeostasis, Spike Frequency Adaptation and diverse forms of Hebbian learning (e.g. Spike Timing Dependent Plasticity). This special research topic collects the most advanced developments in the design of the diverse forms of plasticity, from the single circuit to the system level, as well as their exploitation in the implementation of cognitive systems.

Applications of Robotics in Industry Using Advanced Mechanisms

Functional connectomics enables researchers to monitor interactions among thousands of units within the whole brain simultaneously by using various vivo imaging technologies. For example, resting-state functional magnetic resonance imaging can image low-frequency fluctuations in the spontaneous brain activities, representing a popular tool for macro-scale functional connectomics to characterize individual differences in normal brain function, mind-brain associations, and the various disorders. Reliability and reproducibility represents the most fundamental and critical aspect for the human brain functional connectomics to both research and clinical practice. Unfortunately, lacking a data platform for researchers to rigorously explore the reliability and reproducibility of the functional connectome indices has been a bottleneck of further development of clinically oriented imaging markers in the field. Recent efforts on open neuroscience, such as Consortium for Reliability and Reproducibility, Human Connectome Project and OpenFMRI, provide the data for the field to refine and evaluate reliability and reproducibility of novel methods as well as those with widespread usage but without sufficient consideration of reliability. This Frontiers Research Topic aims at bringing together contributions from researchers in brain imaging, neuroscience, computer sciences, applied mathematics, psychology and related fields from an interdisciplinary perspective. By focusing on cutting-edge research across these fields, this topic will create new agenda on quantifying the reliability and reproducibility of the myriad connectomics-based measures and informing expectations regarding the potential of biomarker discovery.

APAC 2019

This four-volume set constitutes the refereed proceedings of the First International Conference on on Computational Intelligence in Engineering Science, ICCIES 2025, in Ho Chi Minh City, Vietnam, during July 23–25, 2025. The 115 full papers presented in these proceedings were carefully reviewed and selected from 210 submissions. The papers are organized in the following topical sections: Part I: Machine Learning; Wireless Networks (6G) Part II: Computer Vision; Natural Language Processing Part III: Intelligent Systems; Internet of Things Part IV: Machine Learning; Control Systems

Synaptic Plasticity for Neuromorphic Systems

This book discusses cancers and the resurgence of public interest in plant-based and herbal drugs. It also describes ways of obtaining anti-cancer drugs from plants and improving their production using biotechnological techniques. It presents methods such as cell culture, shoot and root culture, hairy root culture, purification of plant raw materials, genetic engineering, optimization of culture conditions as well as metabolic engineering with examples of successes like taxol, shikonin, ingenol mebutate and podophylotoxin. In addition, it describes the applications and limitations of large-scale production of anti-cancer compounds using biotechnological means. Lastly, it discusses future economical and eco-friendly strategies for obtaining anti-cancer compounds using biotechnology.

Spiking Neural Network Learning, Benchmarking, Programming and Executing

A comprehensive Introduction to the world of brain and behavior computational models This book provides a broad collection of articles covering different aspects of computational modeling efforts in psychology and neuroscience. Specifically, it discusses models that span different brain regions (hippocampus, amygdala, basal ganglia, visual cortex), different species (humans, rats, fruit flies), and different modeling methods (neural network, Bayesian, reinforcement learning, data fitting, and Hodgkin-Huxley models, among others). Computational Models of Brain and Behavior is divided into four sections: (a) Models of brain disorders; (b) Neural models of behavioral processes; (c) Models of neural processes, brain regions and neurotransmitters, and (d) Neural modeling approaches. It provides in-depth coverage of models of psychiatric disorders, including depression, posttraumatic stress disorder (PTSD), schizophrenia, and dyslexia; models of neurological disorders, including Alzheimer’s disease, Parkinson’s disease, and epilepsy; early sensory and perceptual processes; models of olfaction; higher/systems level models and low-level models; Pavlovian and instrumental conditioning; linking information theory to neurobiology; and more. Covers computational approximations to intellectual disability in down syndrome Discusses computational models of pharmacological and immunological treatment in Alzheimer's disease Examines neural circuit models of serotonergic system (from microcircuits to cognition) Educates on information theory, memory, prediction, and timing in associative learning Computational Models of Brain and Behavior is written for advanced undergraduate, Master's and PhD-level students—as well as researchers involved in computational neuroscience modeling research.

Reliability and Reproducibility in Functional Connectomics

This book presents recent advances in studies of light propagation, scattering, emission and absorption in random media. Many natural and biological media vary randomly in time and space. Examples are terrestrial atmosphere and ocean, biological liquids and tissues to name but a few.

Computational Intelligence in Engineering Science

Build real-world time series forecasting systems which scale to millions of time series by applying modern machine learning and deep learning concepts Key Features Explore industry-tested machine learning

techniques used to forecast millions of time series Get started with the revolutionary paradigm of global forecasting models Get to grips with new concepts by applying them to real-world datasets of energy forecasting Book DescriptionWe live in a serendipitous era where the explosion in the quantum of data collected and a renewed interest in data-driven techniques such as machine learning (ML), has changed the landscape of analytics, and with it, time series forecasting. This book, filled with industry-tested tips and tricks, takes you beyond commonly used classical statistical methods such as ARIMA and introduces to you the latest techniques from the world of ML. This is a comprehensive guide to analyzing, visualizing, and creating state-of-the-art forecasting systems, complete with common topics such as ML and deep learning (DL) as well as rarely touched-upon topics such as global forecasting models, cross-validation strategies, and forecast metrics. You'll begin by exploring the basics of data handling, data visualization, and classical statistical methods before moving on to ML and DL models for time series forecasting. This book takes you on a hands-on journey in which you'll develop state-of-the-art ML (linear regression to gradient-boosted trees) and DL (feed-forward neural networks, LSTMs, and transformers) models on a real-world dataset along with exploring practical topics such as interpretability. By the end of this book, you'll be able to build world-class time series forecasting systems and tackle problems in the real world.What you will learn Find out how to manipulate and visualize time series data like a pro Set strong baselines with popular models such as ARIMA Discover how time series forecasting can be cast as regression Engineer features for machine learning models for forecasting Explore the exciting world of ensembling and stacking models Get to grips with the global forecasting paradigm Understand and apply state-of-the-art DL models such as N-BEATS and Autoformer Explore multi-step forecasting and cross-validation strategies Who this book is for The book is for data scientists, data analysts, machine learning engineers, and Python developers who want to build industry-ready time series models. Since the book explains most concepts from the ground up, basic proficiency in Python is all you need. Prior understanding of machine learning or forecasting will help speed up your learning. For experienced machine learning and forecasting practitioners, this book has a lot to offer in terms of advanced techniques and traversing the latest research frontiers in time series forecasting.

Biotechnology and Production of Anti-Cancer Compounds

This open access book constitutes the proceedings of the 29th International Conference on Tools and Algorithms for the Construction and Analysis of Systems, TACAS 2023, which was held as part of the European Joint Conferences on Theory and Practice of Software, ETAPS 2023, during April 22-27, 2023, in Paris, France. The 56 full papers and 6 short tool demonstration papers presented in this volume were carefully reviewed and selected from 169 submissions. The proceedings also contain 1 invited talk in full paper length, 13 tool papers of the affiliated competition SV-Comp and 1 paper consisting of the competition report. TACAS is a forum for researchers, developers, and users interested in rigorously based tools and algorithms for the construction and analysis of systems. The conference aims to bridge the gaps between different communities with this common interest and to support them in their quest to improve the utility, reliability, flexibility, and efficiency of tools and algorithms for building computer-controlled systems.

Computational Models of Brain and Behavior

Healthcare sectors often deal with a large amount of data related to patients' care and hospital workforce management. Mistakes occur, and the impending results are disastrous for individuals' personal identity information. However, an innovative and reliable way to safeguard the identity of individuals and provide protection of medical records from criminals is already in effect. Design and Implementation of Healthcare Biometric Systems provides innovative insights into medical identity theft and the benefits behind biometrics technologies that could be offered to protect medical records from hackers and malicious users. The content within this publication represents the work of ASD screening systems, healthcare management, and patient rehabilitation. It is designed for educators, researchers, faculty members, industry practitioners, graduate students, and professionals working with healthcare services and covers topics centered on understanding the practical essence of next-generation healthcare biometrics systems and future research directions.

Springer Series in Light Scattering

Recently, greater emphasis has been placed on the fact that women, regardless of whether they are located in developed or developing nations, are still facing numerous challenges regarding their financial status, education, and independence. As recent movements have highlighted such problems as unequal pay and sexual harassment and abuse, it has become imperative that steps must be taken to analyze these problems and offer solutions to combat these inequalities that would improve women's lives and society as a whole. Overcoming Challenges and Barriers for Women in Business and Education: Socioeconomic Issues and Strategies for the Future is an essential reference source that highlights cross-cultural perspectives, obstacles, and opportunities pertaining to the advancement of women's lives in society. The chapters within the book explore a variety of concepts for building a bridge to women empowerment and improving their participation in the development of their respective societies. Featuring research on topics such as global business, higher education, and gender discrimination, this book is ideally designed for managers, business professionals, entrepreneurs, social scientists, policymakers, gender studies researchers, students, and academicians looking for strategies that will help to empower women through the book's social justice model, which acts as an underlying theoretical construct.

Modern Time Series Forecasting with Python

The Handbook of Multimodal-Multisensor Interfaces provides the first authoritative resource on what has become the dominant paradigm for new computer interfaces: user input involving new media (speech, multi-touch, hand and body gestures, facial expressions, writing) embedded in multimodal-multisensor interfaces that often include biosignals. This edited collection is written by international experts and pioneers in the field. It provides a textbook, reference, and technology roadmap for professionals working in this and related areas. This second volume of the handbook begins with multimodal signal processing, architectures, and machine learning. It includes recent deep learning approaches for processing multisensorial and multimodal user data and interaction, as well as context-sensitivity. A further highlight is processing of information about users' states and traits, an exciting emerging capability in next-generation user interfaces. These chapters discuss real-time multimodal analysis of emotion and social signals from various modalities, and perception of affective expression by users. Further chapters discuss multimodal processing of cognitive state using behavioral and physiological signals to detect cognitive load, domain expertise, deception, and depression. This collection of chapters provides walk-through examples of system design and processing, information on tools and practical resources for developing and evaluating new systems, and terminology and tutorial support for mastering this rapidly expanding field. In the final section of this volume, experts exchange views on the timely and controversial challenge topic of multimodal deep learning. The discussion focuses on how multimodal-multisensor interfaces are most likely to advance human performance during the next decade.

Tools and Algorithms for the Construction and Analysis of Systems

The basal ganglia has received much attention over the last two decades, as it has been implicated in many neurological and psychiatric disorders. Most of this research—in both animals and humans—attempt to understand the neural and biochemical substrates of basic motor and learning processes, and how these are affected in human patients as well as animal models of brain disorders. The current volume contains research articles and reviews describing basic, pre-clinical and clinical neuroscience research of the basal ganglia written by attendees of the 11th Triennial Meeting of the International Basal Ganglia Society (IBAGS) that was held March 3-7th, 2013 at the Princess Hotel, Eilat, Israel and by researchers of the basal ganglia. Specifically, articles in this volume include research reports on the biochemistry, computational theory, anatomy and physiology of single neurons and functional circuitry of the basal ganglia networks as well as the latest data on animal models of basal ganglia dysfunction and clinical studies in human patients.

Design and Implementation of Healthcare Biometric Systems

Neurophysiology and biology provide useful starting points to help us understand and build better audio processing systems. The papers in this special issue address hardware implementations, spiking networks, sound identification, and attention decoding.

Overcoming Challenges and Barriers for Women in Business and Education: Socioeconomic Issues and Strategies for the Future

Recent years have brought new insights to the understanding of Parkinson’s disease, impact of exercise and sound displays in rehabilitation and movement facilitation. There is growing evidence that auditory signals in the environment can provide a temporal template for movement and change the mode of motor control from intrinsic to extrinsic; habitual to goal-directed, enabling enhanced motor performance in patients. In addition, forced exercise rate studies show that exercising at the pace of healthy adults can have potential neuroprotective benefits for patients. Many research groups have explored the use of auditory cues (such as rhythmical auditory training) in improving gait and upper limb movement parameters. Cues are usually either intermittent (metronome) or continuous (dynamic sound displays). Similarly, dance based interventions suggest that patients benefit from additional sensory information (i.e. the temporal structure embedded in music and proprioceptive information from a dancing partner) that facilities movement. On the contrary, studies dedicated to auditory perception and motor timing report an impaired ability of patients to perceive and synchronise with complex rhythmical structures (i.e. causing an inability to play musical instruments). With the growth of modern technology and the increasing portability of hi-specification devices (such as smart phones), new research questions on the design of interventions are beginning to emerge as we strive for more efficient therapeutic approaches. In this Research Topic we wanted to bring together top scientists from the movement disorder, motor control and sound related studies along with therapists. That way, we can engage in cross-disciplinary and challenging scientific debate about future rehabilitation avenues and frontiers for Parkinson’s disease patients.

The Handbook of Multimodal-Multisensor Interfaces, Volume 2

Closed Loop Neuroscience addresses the technical aspects of closed loop neurophysiology, presenting the implementation of these approaches spanning several domains of neuroscience, from cellular and network neurophysiology, through sensory and motor systems, and then clinical therapeutic devices. Although closed-loop approaches have long been a part of the neuroscientific toolbox, these techniques are only now gaining popularity in research and clinical applications. As there is not yet a comprehensive methods book addressing the topic as a whole, this volume fills that gap, presenting state-of-the-art approaches and the technical advancements that enable their application to different scientific problems in neuroscience. - Presents the first volume to offer researchers a comprehensive overview of the technical realities of employing closed loop techniques in their work - Offers application to in-vitro, in-vivo, and hybrid systems - Contains an emphasis on the actual techniques used rather than on specific results obtained - Includes exhaustive protocols and descriptions of software and hardware, making it easy for readers to implement the proposed methodologies - Encompasses the clinical/neuroprosthetic aspect and how these systems can also be used to contribute to our understanding of basic neurophysiology - Edited work with chapters authored by leaders in the field from around the globe – the broadest, most expert coverage available

Basal ganglia: physiological, behavioral, and computational studies

Neuromorphic engineering has just reached its 25th year as a discipline. In the first two decades neuromorphic engineers focused on building models of sensors, such as silicon cochleas and retinas, and building blocks such as silicon neurons and synapses. These designs have honed our skills in implementing sensors and neural networks in VLSI using analog and mixed mode circuits. Over the last decade the address event representation has been used to interface devices and computers from different designers and even different groups. This facility has been essential for our ability to combine sensors, neural networks, and actuators into neuromorphic systems. More recently, several big projects have emerged to build very large

scale neuromorphic systems. The Telluride Neuromorphic Engineering Workshop (since 1994) and the CapoCaccia Cognitive Neuromorphic Engineering Workshop (since 2009) have been instrumental not only in creating a strongly connected research community, but also in introducing different groups to each other's hardware. Many neuromorphic systems are first created at one of these workshops. With this special research topic, we showcase the state-of-the-art in neuromorphic systems.

Journal of Teacher Education

Bio-inspired Audio Processing, Models and Systems