

|                         |  |
|-------------------------|--|
| 1. Record Nr.           | UNINA9910633934603321  |
| Titolo                  | New approaches for multidimensional signal processing : proceedings of International Workshop, NAMSP 2022 // edited by Roumen Kountchev, Rumen Mironov, Kazumi Nakamatsu   |
| Pubbl/distr/stampa      | Singapore : , : Springer, , [2023]<br>©2023  |
| ISBN                    | 981-19-7842-5  |
| Descrizione fisica      | 1 online resource (287 pages)  |
| Collana                 | Smart Innovation, Systems and Technologies ; ; v.332   |
| Disciplina              | 799  |
| Soggetti                | Signal processing  |
| Lingua di pubblicazione | Inglese  |
| Formato                 | Materiale a stampa   |
| Livello bibliografico   | Monografia   |
| Nota di bibliografia    | Includes bibliographical references and index.   |
| Nota di contenuto       | Intro -- Organizing Committee -- Preface -- Contents -- About the Editors -- Multidimensional Signal Processing -- Multidimensional Signal Processing and Applications-New Approaches -- 1 Introduction -- 2 Main Topics Presented at NAMSP'22 -- 3 Conclusions -- References -- Video Tracing of Moving Objects by Fusing Three-Term Decompositions -- 1 Introduction -- 2 Algorithms Description -- 2.1 3-Way Decomposition (3WD) -- 2.2 Motion-Assisted Matrix Restoration (MAMR) -- 2.3 Robust Motion-Assisted Matrix Restoration (RMAMR) -- 2.4 Alternating Direction Method of Multipliers (ADMM) -- 2.5 Fusing Three-Term Decompositions -- 3 Experimental Results -- 4 Discussion -- 5 Conclusion -- References -- Deep Learning Approaches for Classroom Audio Classification Using Mel Spectrograms -- 1 Introduction -- 2 Methodology -- 2.1 Mel Spectrogram -- 2.2 Convolutional Neural Network -- 2.3 Long Short-Term Memory -- 3 Experimental Setup -- 3.1 Dataset -- 3.2 Dataset Description -- 4 Results -- 5 Conclusion -- References -- Tensor Spectral Pyramid for Color Video Sequences Representation, Based on 3D FO-AHKLT -- 1 Introduction -- 2 Structure of the Two-Layer Tensor Spectrum Pyramid for RGB Color Video Representation -- 3 Calculation of the Two-Layer Tensor Spectrum Pyramid -- 4 Lateral Tensor Vectorization in Direction "TIME" -- 5 Evaluation of 2LTSP Computational Complexity -- 6 Conclusions and Future Work -- References -- Electromyography |

Signal Acquisition, Processing, Optimization and Its Applications -- 1  
Introduction -- 2 Electromyogram Signal Initiation -- 3 EMG Signal  
Acquisition -- 4 Factors Affecting EMG Signals -- 4.1 Essential  
Requirements for Acquisition of EMG Signals -- 4.2 EMG Signal  
Detection -- 4.3 EMG Signal Decomposition -- 4.4 EMG Signal  
Processing -- 4.5 Feature Extraction and Classification -- 4.6  
Optimization of the EMG Signals.  
5 Applications of EMG -- 6 Conclusions and Future Scope --  
References -- Research on the Radar Signal Classification Method  
Based on the Deep Faith Network Model -- 1 Introduction -- 2 Method  
-- 2.1 Deep Belief Network Model -- 2.2 DBN Model Based on Support  
Vector Machine -- 3 Result Analysis -- 4 Conclusion -- References --  
Measuring Machine Intelligence Using Black-Box-Based Universal  
Intelligence Metrics -- 1 Introduction -- 2 State-of-the-Art Machine  
Intelligence Metrics -- 3 Guide for Choosing Between Black-Box-Based  
Metrics for Measuring the Machine Intelligence -- 3.1 The Specificity  
of the Black-Box Methods for Intelligence Measuring -- 3.2 The  
Universal MetrIntPair Intelligence Metric -- 3.3 The Universal  
MetrIntPairII Intelligence Metric -- 3.4 The ExtrIntDetect Method  
for Detecting Systems with Outlier Intelligence -- 4 Machine  
Intelligence Quotient as Indicator of Central Intelligence Tendency --  
4.1 Calculus of the Central Intelligence Tendency of an IABS -- 4.2  
Experimental establishment of the central performance tendency -- 5  
Conclusions -- References -- Applications of Multidimensional Signal  
Processing -- COVID Detection Using ECG Image Reports: A Survey -- 1  
Introduction -- 2 Related Works -- 3 Main Phases for COVID Detection  
Using ECG Reports -- 3.1 Data Acquisition -- 3.2 Data Augmentation  
-- 3.3 Pre-processing -- 3.4 Feature Extraction -- 3.5 Classification --  
4 Discussion and Limitations -- 5 Conclusion and Future Works --  
References -- Disease Detection Techniques in Plants: Transition  
from Manual to Automation -- 1 Introduction -- 2 Types of Detection  
Techniques -- 2.1 Naked Eye Observation -- 2.2 Image Capture  
Method -- 2.3 Paper Grid Method -- 2.4 Invasive Methods -- 2.5  
Automated Detection Techniques -- 3 Deep Learning Techniques --  
3.1 Artificial Neural Networks (ANN) -- 3.2 Convolutional Neural  
Network (CNN).  
4 Summary and Future Directions -- References -- On Applying  
Gradient Based Thresholding on the Canny Edge Detection Results  
to Improve the Effectiveness of Fuzzy Hough Transform  
for Colonoscopy Polyp Detection Purposes -- 1 Introduction -- 2  
Background Considerations -- 2.1 Classical and Fuzzy Hough  
Transform -- 2.2 Gradient Filtering, Gradient Magnitude -- 2.3 Canny  
Edge Detection -- 3 Applied Methods and Evaluation Metrics -- 4  
Results -- 5 Conclusion -- References -- Development of IoT Indoor  
Monitoring System for Independent Elderly -- 1 Introduction -- 2  
Related Works -- 3 IoT Device Architecture -- 3.1 Sensing Level -- 3.2  
Network Level -- 3.3 Processing Level -- 3.4 Interface Level -- 4  
Proposed Monitoring System Architecture -- 5 Conclusion --  
References -- Improving the Process of Evaluating User Stories Using  
the Paraconsistent Annotated Evidential Logic E -- 1 Introduction -- 2  
Reasons -- 2.1 User Stories -- 2.2 Invest -- 2.3 Paraconsistent  
Annotated Evidential Logic E -- 3 Case Study -- 4 Results -- 5  
Conclusion -- References -- Neural Network Algorithm Applied  
in Electrical Engineering Automation -- 1 Introduction -- 2 Method --  
2.1 Neural Network Algorithm -- 2.2 Electrical Engineering Automation  
Based on Neural Network Algorithm -- 2.3 Fault Diagnosis  
of Automatic Electrical Equipment Based on Neural Network -- 3 Result  
Analysis -- 4 Conclusion -- References -- Truss Structure

Optimization Design Based on FE-PSO-SQP Algorithm -- 1 Introduction -- 2 The Mathematical Model for Truss Optimization Problem -- 2.1 Design Parameters -- 2.2 Goal Function -- 2.3 Constraints -- 2.4 The Setting of Constraint -- 3 Particle Swarm Optimization -- 4 Sequential Quadratic Programming -- 5 FE-PSO-SQP Algorithm -- 6 Example Analysis -- 7 Conclusion -- References -- Practice System of Ant Colony Optimization Algorithm in Business Administration. 1 Introduction -- 2 Method -- 2.1 Industrial and Commercial Inspection Scheduling Model -- 2.2 Improved Ant Colony Optimization Algorithm -- 2.3 Fusion Implementation of Particle Swarm Optimization and Ant Colony Algorithm -- 3 Result Analysis -- 3.1 Experimental Results of the Improved Algorithm -- 3.2 Experimental Results of Hybrid Algorithm -- 4 Conclusion -- References -- Applications of Blockchain and Network Technologies -- Literature Review of Smart Contracts Using Blockchain Technology -- 1 Introduction -- 1.1 Version of Blockchain -- 2 Problem Statement -- 2.1 Need -- 2.2 Challenges -- 2.3 Future Scope -- 3 Brief Survey of Earlier Work -- 4 Tabular Representation -- 5 Conclusion -- References -- A Comprehensive Study of 5th Generation Scheduling Algorithms -- 1 Core of 5th Generation -- 1.1 Requirements for 5G are as Follows -- 1.2 Services of 5G -- 2 Well Defined Architecture of 5th Generation -- 2.1 Fifth Generation Works in Two Modes -- 3 Scheduling Mechanisms and Existing Scheduling Algorithms/techniques -- 3.1 There are Two Types of Scheduling -- 4 Overview to Related Work -- 4.1 Downlink Scheduling and Resource Allocation for 5G MIMO-Multicarrier: OFDM Versus FBMC/OQAM -- 4.2 A Novel Scheduling Technique for Improving Cell Edge Performance in 4G/5g Systems -- 4.3 Inter-cellular Scheduler for 5G Wireless Networks -- 4.4 A Flexible Scheduling Algorithm for the 5th Generation Networks -- 4.5 Effective 5G Wireless Downlink Scheduling and Resource Allocation in Cyber-Physical Systems -- 4.6 Energy Efficient Scheduling of Small Cells in 5G: A Meta Heuristic Approach -- 4.7 Green Massive MIMO Scheduling for 5G Traffic with Fairness -- 4.8 Survey of Scheduling Schemes in 5G Mobile Communication Systems -- 4.9 A Review on Techniques to Improve the Cell Edge Performance for Wireless Network -- 5 Conclusion -- References. A Comparative Analysis of Homogeneous and Heterogeneous Protocols to Maximize the Lifetime of Wireless Sensor Network for Precision Agriculture -- 1 Introduction -- 2 Clustered Routing Strategies in Wireless Sensor Network -- 2.1 LEACH Protocol -- 2.2 LEACH-C Protocol -- 2.3 TEEN Protocol -- 2.4 SEP Protocol -- 2.5 DEEC Protocol -- 2.6 EDEEC (Enhanced Distributed Energy Efficient Clustering) Protocol -- 3 Algorithm for the Simulated Protocols -- 4 Implementation and Results -- 5 Conclusion -- References -- The Integration Development and Upgrading Path of Industry 4.0 Architecture Industrial Engineering Network Driven by Big Data -- 1 Introduction -- 2 Method -- 3 Result Analysis -- 4 Conclusion -- References -- SAAS Application Prospect Analysis in Hrm and Methods to Upgrade the Contemporary System -- 1 Introduction -- 2 Contemporary Works of SAAS -- 3 Data Analysis -- 3.1 Data Source -- 3.2 Marco Analysis -- 3.3 Micro Analysis -- 3.4 Conclusion of Analyzing -- 4 Methods Improvements Which Based on the Previous Study -- 4.1 General Guidelines of Improved Modes -- 4.2 Renovation of Existed SAAS Systems or Conceptions -- 4.3 Conclusion of Renovations Above -- References -- All Digital Phase Locked Loop (ADPLL) and Its Blocks-A Comprehensive Knowledge -- 1 Introduction -- 1.1 When the Concept of PLL Come into Being -- 2 ADPLL Architecture -- 2.1 Phase Detector -- 2.2 Loop Filter -- 2.3 Digital

Controlled Oscillator -- 3 Design Parameters of the ADPLL -- 4  
Different ADPLLs Architecture and Their Comparison -- 5 Conclusion  
-- References -- On Realization of Smart Logistic Warehouse  
Management with Internet of Things -- 1 Introduction -- 2 A Glance  
at IOT and Smart Warehouse Management -- 2.1 Internet of Things --  
2.2 Features of Smart Warehouse Management -- 3 The Realization  
of Smart Warehouse Management with IOT.  
3.1 Automated and Accurate Stock Counting.

---