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Autore	Nagel Sven
Titolo	Design of Cast Steel Components under Cyclic Loading
Pubbl/distr/stampa	Karlsruhe, : KIT Scientific Publishing, 2022
ISBN	1000137373
Descrizione fisica	1 online resource (296 p.)
Collana	Berichte zum Stahl- und Leichtbau
Soggetti	Civil engineering, surveying & building
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	This work presents a design approach that links fatigue resistance of cast steel component to permissible defect sizes. It is based on fractures mechanics, is in line with experiences of the last 60 years and validated by extensive experimental as well as numerical investigations on different scales and under consideration of real casting defects. By following established assessment methods, the design concept is adapted to practical building applications.

2. Record Nr. UNINA9910806198303321

Titolo	12th World Conference “Intelligent System for Industrial Automation” (WCIS-2022) : Volume 1 / / edited by R. A. Aliev, Nodirbek Rustambekovich Yusupbekov, Janusz Kacprzyk, Witold Pedrycz, M. B. Babanli, Fahreddin M. Sadikoglu, S. M. Turabdjanov
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2024
ISBN	3-031-51521-8
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (415 pages)
Collana	Lecture Notes in Networks and Systems, , 2367-3389 ; ; 718
Disciplina	670.28563
Soggetti	Computational intelligence Industrial engineering Production engineering Computational Intelligence Industrial and Production Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Intro -- Preface -- Organization -- Contents -- Z-Number-Valued Clustering -- Evolution of Cyber Physical Systems Towards Industrial Metaverse -- Intellectual Device for Measuring the Humidity of Bulk Materials -- 1 Introduction -- 1.1 Research Object -- 1.2 The Relevance of the Work -- 2 Methods -- 3 Results -- 4 Conclusions -- References -- University Selection by Using Z-TOPSIS Methodology -- 1 Introduction -- 2 Preliminaries -- 3 Statement of the Problem and Z-TOPSIS -- 4 Experimental Verification of the Z-TOPSIS Method -- 5 Conclusion -- References -- Industrial Metaverse: Solutions from a Higher-Dimensional World -- 1 Introduction -- 2 Pilot Projects -- 3 Building Industrial Metaverses -- 3.1 Digitalization -- 3.2 Actualization -- 4 Benefiting from Industrial Metaverses -- 4.1 Productivity Tool -- 4.2 Education and Training -- 4.3 Industrial Integration and Upgrading -- 5 Growing Interest -- 6 Concluding Remarks -- References -- Informativeness of Feature Sets in Data with Missing Values -- 1 Introduction -- 2 Methods -- 2.1 Splitting into Intervals According to the Criterion of Dominance

of Representatives of Classes -- 2.2 Membership Function and Stability of Feature -- 2.3 Formation of a Sequence of Features According to Stability -- 3 Results -- 4 Conclusion -- References -- Diagnosis of Faults in Electro-Mechanical Devices from Vibration Measurements -- 1 Introduction -- 1.1 Problem Statement -- 1.2 Aims and Objectives -- 2 Methodology -- 2.1 Expected Results -- 3 Machine Diagnosis Analysis -- 3.1 AI in Mechanical Engineering -- 3.2 Classification Algorithms -- 4 Results and Discussion -- 5 Conclusion -- References -- A Comprehensive but Simple Method Decision Making in Z-Environment -- 1 Introduction -- 2 Preliminaries -- 3 Problem Statement and Solution -- 4 An Application Business Location Selection -- 5 Conclusion -- References.
Classification of Threats to Information Security of the "Smart Home" System -- 1 Introduction -- 2 Main Part -- 3 Conclusions -- References -- Finding Individual Feature Space for Quick Decision -- 1 Introduction -- 2 Methodology -- 3 Realization of the Concept -- 4 Computational Experiment -- References -- Development of Reliable TOPSIS Method Using Intuitionistic Z-Numbers -- 1 Introduction -- 2 Preliminaries -- 3 TOPSIS Using Intuitionistic Z-Number -- 4 Supplier Selection Problem -- 5 Results and Discussion -- 6 Conclusion -- References -- Analysis of Algorithm of Binary Classifiers to Improve Attack Detection Systems -- 1 Introduction -- 2 Literature Review -- 3 Materials and Methods -- 4 Analysis and Results -- 5 Conclusions -- References -- Features of Intuitionistic Fuzzy Logic Application in Software Algorithms -- 1 Introduction -- 2 Basic Approaches to the Construction of Intuitionistic Fuzzy Sets -- 3 Development of Complex Algorithms for the Analysis of Data Sets Based on Intuitionistic Fuzzy Sets -- 4 Representation of Intuitionistic Fuzzy Sets as Intervals -- 5 Conclusion -- References -- Defect Detection of Casting Products Using Convolutional Neural Network -- 1 Introduction -- 2 Materials and Methods -- 2.1 Dataset -- 2.2 Convolutional Neural Networks -- 2.3 Evaluation Metrics -- 3 Experiments, Results, and Discussions -- 3.1 Experiments -- 3.2 Results -- 3.3 Discussions -- 4 Conclusion -- References -- A New Type of Architecture for Neural Networks with Multi-connected Weights in Classification Problems -- 1 Introduction -- 2 Description of the Architecture -- 3 The Structure of MCNN Model and Main Result -- 3.1 Training the MCNN -- 4 Computational Experiments -- 5 Conclusion -- References -- Using the Capabilities of Artificial Neural Networks in the Cryptanalysis of Symmetric Lightweight Block Ciphers -- 1 Introduction.
2 Overview of Artificial Neural Network -- 2.1 Components of Artificial Neural Networks -- 2.2 Activation Function -- 2.3 Rectified Linear Unit (ReLu) Function -- 2.4 Loss Function -- 2.5 Mean Squared Error -- 2.6 Optimizer -- 2.7 Epoch -- 3 Simplified AES Algorithm -- 4 Methods -- 5 Attack Experiments and Results -- 6 Conclusion -- References -- Intuitionistic Fuzzy Evaluation of Basic Human Needs -- 1 Introduction -- 2 Statement of the Problem -- 3 An Algorithm for Computation of BHNI -- 4 Computation Results of BHNI -- 5 Conclusion -- References -- Interpretable Neural Network Models in School Teacher Success Prediction -- 1 Introduction -- 2 Data -- 3 Methods -- 3.1 Neural Networks -- 3.2 Integrated Gradients -- 3.3 SHAP -- 4 Results -- 5 Conclusion -- References -- E-payment Systems Security Solutions Using Facial Authentication Based on Artificial Neural Networks -- 1 Introduction -- 1.1 Threats to the Security of e-payment Systems in Uzbekistan -- 2 Method and Materials -- 2.1 Proposed Methodology -- 2.2 The Principle of Operation of the System -- 3 Conclusion -- References -- Development of a Prototype of a Medical

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2.1 Locus of Control -- 2.2 Thinking Style -- 2.3 Impulse Buying Behaviour -- 3 Methodology -- 3.1 Data Analysis -- 4 Results and Discussion -- 4.1 Preliminaries -- 5 Solution of the Problem -- 6 Conclusion -- References -- Study of Decentralized Resource Allocation System Under Partial Uncertainty -- 1 Introduction -- 2 Analysis of the Decentralized Energy Distribution System -- 3 Application of Approximate Methods to Optimize Resource Allocation -- 4 Formalization of the Distribution Problem in a Fuzzy Form -- 5 Evaluation of Effectiveness -- 6 Conclusion -- References -- Using Intelligent System for Diagnosis of Chronic Hepatitis B -- 1 Introduction -- 2 Intelligent Systems -- 3 Methodology of the Problem -- 4 Intelligent System Design -- 5 Conclusion -- References -- Applying Multi-layer Perceptron Neural Network to Predict Wind Speed in Lebanon -- 1 Introduction -- 2 Material and Methods -- 2.1 Study Area and Data -- 2.2 Multi-Layer Perceptron Neural Network (MLPNN) -- 2.3 Prediction of Wind Speed Prediction with Selected Inputs -- 2.4 Statistical Indices -- 3 Results and Discussion -- 3.1 Data Characteristics -- 3.2 Evaluate the Influence of Input Variables -- 4

Conclusions -- References -- Intelligent Systems Applications in Gastronomy -- 1 Introduction -- 2 Materials and Methods -- 3 Literary Research -- 3.1 Information Technologies -- 3.2 Intelligent Systems Usage Areas -- 3.3 Hardware and Software -- 3.4 Intelligent Systems and Fuzzy Logic -- 4 Conclusion -- References -- Application of Artificial Neural Network to Improve DRASTIC-Based Groundwater Vulnerability Assessment -- 1 Introduction -- 2 Materials and Methods -- 2.1 Introduction of Study Area -- 2.2 DRASTIC Model -- 2.3 Artificial Neural Network -- 3 Validation -- 4 Results and Discussion -- 5 Conclusion -- References.
Prediction of Dynamic Viscosity of Biodiesel Using Various Artificial Neural Network Methods, Response Surface Methodology, and Multiple Linear Regressions.

Sommario/riassunto

This book presents the first volume of the proceedings of the 12th World Conference "Intelligent systems for industrial automation", WCIS-2022 held in Tashkent, Uzbekistan, on November 25-26, 2022. It includes contributions from diverse areas of intelligent industrial systems design, intelligent information systems, decision making under imperfect information and others. The topics of the papers include hybrid control systems, pattern recognition, industry 4.0, information security, neural computing, fuzzy computation, decision making and support systems, and others.