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Altri autori (Persone)	KabatianskyG KroukE SemenovS
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Nota di contenuto	Error Correcting Coding and Security for Data Networks; Contents; Preface; ACKNOWLEDGMENTS; 1 Problems Facing Error Control Coding in Data Networks; 1.1 International Recommendations on Using Error Control Coding at Different Network Layers; 1.2 Classification of Problems on Coding in Networks; 2 Block Codes; 2.1 Main Definitions; 2.2 Algebraic Structures; 2.3 Linear Block Codes; 2.4 Cyclic Codes; 2.5 Bounds on Minimum Distance; 3 General Methods of Decoding of Linear Codes; 3.1 Minimum Distance Decoding; 3.2 Information Set Decoding; 3.3 A Supercode Decoding Algorithm 3.4 The Complexity of Decoding in the Channel with Independent Errors4 Codes with Algebraic Decoding; 4.1 Hamming Codes; 4.2

Reed-Solomon Codes; 4.3 BCH Codes; 4.4 Decoding of BCH Codes; 4.5 The Sudan Algorithm and its Extensions; 5 Decoding of LDPC Codes; 5.1 Low-Density Parity-Check Codes; 5.2 LDPC Constructions; 5.3 Estimating the Minimum Distance of EG-LDPC Codes; 5.4 Burst-Error-Correcting LDPC Codes; 5.5 Decoding Schemes of LDPC Codes; 5.6 Simulation Results in AWGN; Appendix 5.A Euclidean Geometries; 6 Convolutional Codes and Turbo-Codes
6.1 Convolutional Codes Representation and Encoding6.2 Viterbi Decoding Algorithm; 6.3 List Decoding; 6.4 Sequential Decoding; 6.5 Parallel-Concatenated Convolutional Codes and Soft Input Soft Output Decoding; 6.6 SISO Decoding Algorithms; 7 Coding of Messages at the Transport Layer of the Data Network; 7.1 Decreasing the Message Delay with the help of Transport Coding; 7.2 Transmission of Message during Limited Time; 7.3 Transmission of Priority Messages without using Priority Packets; 7.4 Estimation of the Effectiveness of Transport Coding for the Nonexponential Model of Packet Delay
8 Providing Security of Data in a Network with the Help of Coding Methods8.1 Public-Key Cryptography; 8.2 Codebased Cryptosystems: McEliece and Niederreiter; 8.3 Cryptosystems Based on Full Decoding; 8.4 Further Development of Codebased Cryptosystems; 8.5 Codebased Cryptosystems and RSA: Comparison and Perspectives; 8.6 Codebased Signature; 9 Reconciliation of Coding at Different Layers of a Network; 9.1 Transport Coding in a Network with Unreliable Channels; 9.2 Reconciliation of Channel and Transport Coding; 9.3 Use of Tornado Codes for Reconciliation of Channel and Transport Coding
9.4 Development of Coding Methods at the Presentation Layer9.5 Reconciliation of Coding at Neighbour Layers of a Network; Index

Sommario/riassunto

Error correcting coding is often analyzed in terms of its application to the separate levels within the data network in isolation from each other. In this fresh approach, the authors consider the data network as a superchannel (a multi-layered entity) which allows error correcting coding to be evaluated as it is applied to a number of network layers as a whole. By exposing the problems of applying error correcting coding in data networks, and by discussing coding theory and its applications, this original technique shows how to correct errors in the network through joint codin

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Collana	Communications in Computer and Information Science, , 1865-0937 ; ; 1569
Disciplina	006.3
Soggetti	Artificial intelligence Image processing - Digital techniques Computer vision Social sciences - Data processing Computer engineering Computer networks Education - Data processing Artificial Intelligence Computer Imaging, Vision, Pattern Recognition and Graphics Computer Application in Social and Behavioral Sciences Computer Engineering and Networks Computers and Education Computer Communication Networks
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Capable of classifying the tuples with wireless attacks detection using Machine Learning -- Fault Diagnosis of Combustion Engines in MTU 16VS4000-G81 Generator Sets Using Fuzzy Logic: An Approach to Normalize Specific Fuel Consumption -- DDoS attack preventing and detection with the artificial intelligence -- Iris Recognition using Supervised Learning based on Matching Features -- Convolutional

Neural Network for Segmentation of Single Cell Gel Electrophoresis Assay -- Evaluation of Human SCD test by Digital Image Analysis -- Machine Vision-based Expert System for Automated Skin Cancer Detection -- AI Used to Identify Car Accident Morbidity and Mortality Risk Factors in Dubai UAE -- Toward automatic water pollution analysis: A machine learning approach for water-quality monitoring through pattern classification of water crystallization -- Evaluation of human pose estimation in 3D with monocular camara for clinical application -- On the performance of preconditioned methods to solve Lp-norm phase unwrapping.

Sommario/riassunto

This book constitutes the proceedings of the 4th International Symposium on Intelligent Computing Systems, ISICS 2022, held in Santiago, Chile, in March 2022. Due to the COVID-19 pandemic the conference was held online. The 9 full papers along with 2 short papers presented in this volume were carefully reviewed and selected from 30 submissions. They deal with the field of intelligent computing systems focusing on artificial intelligence, computer vision and image processing.