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Soggetti	Computer science Artificial intelligence Database management Computer engineering Computer networks Computer science—Mathematics Theory of Computation Artificial Intelligence Database Management System Computer Engineering and Networks Mathematics of Computing
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Nota di contenuto	Track of Computational Optimization, Modelling and Simulation -- Information Theory-based Feature Selection: Minimum Distribution Similarity with Removed Redundancy -- On the potential of the nature-inspired algorithms for pure binary Classification -- Symbolic Music Text Fingerprinting: Automatic Identification of Musical Scores -- Reduced-Cost Constrained Modeling of Microwave and Antenna Components: Recent Advances -- Aerodynamic Shape Optimization for Delaying Dynamic Stall of Airfoils by Regression Kriging -- Model-

Based Sensitivity Analysis of Nondestructive Testing Systems using Machine Learning Algorithms -- Application of Underdetermined Dierential Algebraic Equations to Solving One Problem from Heat Mass Transfer -- Fully-Asynchronous Fully-Implicit Variable-Order Variable-Timestep Simulation of Neural Networks -- Deep Learning Assisted Memetic Algorithm for Shortest Route Problems -- A relaxation algorithm for optimal control problems governed by two-dimensional conservation laws -- Genetic learning particle swarm optimization with interlaced ring topology -- Low Reynolds Number Swimming with Slip Boundary Conditions -- Trilateration-based Multilevel Method for Minimizing the Lennard-Jones Potential -- A Stochastic Birth-Death Model of Information Propagation Within Human Networks -- A Random Line-Search Optimization Method Via Modified Cholesky Decomposition for Non-Linear Data Assimilation -- A Current Task-Based Programming Paradigms Analysis -- Radial Basis Functions Based Algorithms for non-Gaussian Delay Propagation in Very Large Circuits -- Ant Colony Optimization implementation for reversible synthesis in Walsh-Hadamard domain -- COEBA: A Coevolutionary Bat Algorithm for Discrete Evolutionary Multitasking -- Convex Polygon Packing Based Meshing Algorithm for Modeling of Rock and Porous Media -- Track of Computational Science in IoT and Smart Systems -- Modelling contextual data for smart environments. Case study of a system to support mountain rescuers -- Fuzzy Intelligence in Monitoring Older Adults with Wearables -- Deep Analytics for Management and Cybersecurity of the National Energy Grid -- Regression methods for detecting anomalies in flue gas desulphurization installations in coal-fired power plants based on sensor data -- Autonomous Guided Vehicles for Smart Industries the state of the art and research challenges -- IoT-based cow health monitoring system -- Visual Self-Healing Modelling for Reliable Internet-of-Things Systems -- Comparative Analysis of Time Series Databases in the Context of Edge Computing for Low Power Sensor Networks -- Conversational Interface for Managing Non-Trivial Internet-of-Things Systems -- Improving Coverage Area in Sensor Deployment using Genetic Algorithm -- Object-Oriented Internet Reactive Interoperability -- Impact of long-range dependent traffic in IoT local wireless networks on backhaul link performance -- Track of Computer Graphics, Image Processing and Artificial Intelligence -- OpenGraphGym: A Parallel Reinforcement Learning Framework for Graph Optimization Problems -- Weighted Clustering for Bees Detection on Video Images -- Improved Two-Step Binarization of Degraded Document Images Based on Gaussian Mixture Model -- Cast Shadow Generation using Generative Adversarial Networks -- Medical Image Enhancement using Super Resolution Methods -- Plane Space Representation in Context of Mode-based Symmetry Plane Detection -- Impression Curve as a New Tool in the study of Visual Diversity of Computer Game Levels for Individual Phases of the Design Process -- Visual analysis of computer game output video stream for gameplay metrics -- Depth map estimation with consistent normals from stereo images -- Parametric Learning of Associative Functional Networks Through a Modified Memetic Self-Adaptive Firefly Algorithm -- Dual formulation of the TV-Stokes denoising model for multidimensional vectorial images -- Minimizing material consumption of 3D printing with stress-guided optimization -- Swarm Intelligence Approach for Rational Global Approximation of Characteristic Curves for the Van Der Waals Equation of State.

Sommario/riassunto

The seven-volume set LNCS 12137, 12138, 12139, 12140, 12141, 12142, and 12143 constitutes the proceedings of the 20th

International Conference on Computational Science, ICCS 2020, held in Amsterdam, The Netherlands, in June 2020.* The total of 101 papers and 248 workshop papers presented in this book set were carefully reviewed and selected from 719 submissions (230 submissions to the main track and 489 submissions to the workshops). The papers were organized in topical sections named: Part I: ICCS Main Track Part II: ICCS Main Track Part III: Track of Advances in High-Performance Computational Earth Sciences: Applications and Frameworks; Track of Agent-Based Simulations, Adaptive Algorithms and Solvers; Track of Applications of Computational Methods in Artificial Intelligence and Machine Learning; Track of Biomedical and Bioinformatics Challenges for Computer Science Part IV: Track of Classifier Learning from Difficult Data; Track of Complex Social Systems through the Lens of Computational Science; Track of Computational Health; Track of Computational Methods for Emerging Problems in (Dis-)Information Analysis Part V: Track of Computational Optimization, Modelling and Simulation; Track of Computational Science in IoT and Smart Systems; Track of Computer Graphics, Image Processing and Artificial Intelligence Part VI: Track of Data Driven Computational Sciences; Track of Machine Learning and Data Assimilation for Dynamical Systems; Track of Meshfree Methods in Computational Sciences; Track of Multiscale Modelling and Simulation; Track of Quantum Computing Workshop Part VII: Track of Simulations of Flow and Transport: Modeling, Algorithms and Computation; Track of Smart Systems: Bringing Together Computer Vision, Sensor Networks and Machine Learning; Track of Software Engineering for Computational Science; Track of Solving Problems with Uncertainties; Track of Teaching Computational Science; Track of UNcErtainty QUantIficatiOn for ComputationAl modeLs *The conference was canceled due to the COVID-19 pandemic.