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Nota di contenuto	Machine Learning and Data Assimilation for Dynamical Systems -- Cluster-based Reduced-order Modelling and Control for Chaotic Systems with Extreme Events -- First Experiences on Exploiting Physics-Informed Neural Networks for Approximating Solutions of a Biological Model -- A Machine Learning System for Energy Forecasting with Feature Importance Analysis -- Latent Three-dimensional Variational Data Assimilation with Convolutional Autoencoder and LSTM for Flood Forecasting -- Online Model Learning with Data-assimilated Reservoir Computers -- Data-Assimilated Model-Based Reinforcement

Learning for Partially Observed Chaotic Flows -- SHAP-prioritised Machine Learning for Diagnostic Grade Prediction of Lung Function -- Turn Detection in Alpine Skiing Using Smartphone Sensors -- Assimilation of Data for Dynamic Digital Twins by Learning Covariance Information -- Multi-Criteria Decision-Making: Methods, Applications, and Innovations -- Issues Importance Analysis for Reaching High-Quality Consensus in Preference-Based Conflict Scenarios -- Integrating Conflict Analysis and Rule-Based Systems for Dispersed Data Classification -- Multicriteria Framework for Digital Content Design and Evaluation in Cross-Generational Targeting -- Integrating Habituation Effects with UCB and Softmax Multi-Armed Bandit Algorithms for Optimized Digital Content Delivery -- Computational Risk Assessment in Water Distribution Network -- Preserving Informative Content of Condition Attributes in Data Transformations for CRSA -- Using SSP-VIKOR in Sustainable Share of Renewable Energy Sources Assessment -- Decision-Making of Homogeneous Multiple Classifiers Based on Attribute Characterisation by Discretisation -- New Multi-Criteria Approach to Sustainable Development Assessment -- Compromise Fuzzy Ranking: A Novel Method for Reaching Consensus in Complex Multi-criteria Decision Problems -- A New Approach to Large-scale Multi-criteria Group Decision-making Based on the RANCOM Method -- Towards Sustainable Decision Making: New Reference Point-Based MCDA Method -- An Adaptive RANCOM-ST Method for Bias Reduction using Statistical Thresholds -- Strong Sustainability Paradigm in TOPSIS Method: New Approach to Wind Farm Selection Problem -- Aspects of Implementing RPA in an IT Company -- Evaluating Sufficiency Practices for Sustainable Competitiveness using AHP-grey Analysis -- Actionable Fire Modeling in Firemap for Extended Attack Decision Support -- The Role of Preference Reidentification in MCDA: Comparing Weight-Based, Normalization, and Reference-Object Approaches -- Subjective Equal Criteria Influence Approach (SECIA): A Novel Extended Approach to Weights Determination -- Local Markovian Consensus for Ranking Aggregation: A Novel Approach to Consensus Ranking with Weak Ordinal Dominance.

Sommario/riassunto

The 6-volume set constitutes the worshop proceedings of the 25th International Conference on Computational Science, ICCS 2025, which took place in Singapore, Singapore, during July 7–9, 2025. The 137 full papers and 32 short papers presented in these proceedings were carefully reviewed and selected from 322 submissions. The papers are organized in the following topical sections: Volume I: Advances in high-performance computational earth sciences: numerical methods, frameworks & applications; artificial intelligence approaches for network analysis; artificial intelligence and high-performance computing for advanced simulations; and biomedical and bioinformatics challenges for computer science. Volume II: Computational health; computational modeling and artificial intelligence for social systems; and computational optimization, modelling and simulation. Volume III: Computational science and AI for addressing complex and dynamic societal challenges equitably; computer graphics, image processing and artificial intelligence; computing and data science for materials discovery and design; and large language models and intelligent decision-making within the digital economy. Volume IV: Machine learning and data assimilation for dynamical systems; and multi-criteria decision-making: methods, applications, and innovations. Volume V: (Credible) Multiscale modelling and simulation; numerical algorithms and computer arithmetic for computational science; quantum computing; retrieval-

augmented generation; and simulations of flow and transport: modeling, algorithms and computation. Volume VI: Smart systems: bringing together computer vision, sensor networks and artificial intelligence; solving problems with uncertainty; and teaching computational science.