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Nota di contenuto	Computational Science and AI for Addressing Complex and Dynamic Societal Challenges Equitably -- Temporal-aware Social Bot Detection with Graph Contrastive Learning -- Bias or Justice? Analyzing LLM Sentencing Variability in Theft Indictments Across Gender, Ethnicity, and Education Factors -- Minimally Supervised Hierarchical Domain Intent Learning for CRS -- Computer Graphics, Image Processing and Artificial Intelligence -- A New Technique for Enhanced Monochrome Visualization of Non-Visual Data -- SupResDiffGAN a New Approach for

the Super-Resolution Task -- Optimized Custom CNN for Real-Time Tomato Leaf Disease Detection -- ConvNeXt Fine-Tuning for Accurate Classification of 300 Cooking Ingredients -- Universal Deepfake Detection Across Various Image Generators Based on Data from Diffusion Models -- Hybrid Procedural Level Generation Using Wave Function Collapse and Genetic Algorithms -- Enhancing AI Face Realism: Cost-Efficient Quality Improvement in Distilled Diffusion Models with a Fully Synthetic Dataset -- Deep Learning Classification of Blackcurrant Genotypes by Ploidy Levels on Stomata Microscopic Images -- Advanced Graph-Based Object Segmentation in Large-Scale 3D Point Clouds -- BVH Trees of Many Dynamic Lights for Real-Time Ray Tracing -- Transferability of UNet-Based Downscaling Model for High-Resolution Temperature Data Across Diverse Regions -- Bayesianization of ML models in Forecasting Small Data Sequences with Missing Values -- Enhancing Medical Image Analysis with Multi-Task Learning Using Visual Transformers -- Bat Algorithm for Automatic Chaos Control Method Driven by Multiplicative Pulses to the System Variables on the Logistic Map -- Computing and Data Science for Materials Discovery and Design -- Domain Specific Language for Materials Modeling -- Structural Response of Bijeles Stabilized by Ellipsoidal Magnetic Particles -- Data-Driven Prediction of Glass Transition Temperature Using Molecular Structural Features -- Exploration and Learning Algorithms Used for Predicting Casting Properties -- Physics Informed Neural Networks for a Wigner-Fokker-Planck Model of Open Quantum Systems -- Large Language Models and Intelligent Decision-Making within the Digital Economy -- Dataset Distillation via Kantorovich-Rubinstein Dual of Wasserstein Distance -- Predicting Stock Prices with ChatGPT-annotated Reddit Sentiment: Hype or Reality?- AIOps for Reliability: Evaluating Large Language Models for Automated Root Cause Analysis in Chaos Engineering.

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## Sommario/riassunto

The 6-volume set constitutes the workshop 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.

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