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8.1 INTRODUCTION8.2 DISCRETE TIME SYSTEM AND MODELLING; 8.3 SAMPLE PATH; 8.4 DISCRETE TIME SIMULATION AND DISCRETE EVENT SIMULATION; 8.5 A CASE STUDY: CAR-FOLLOWING MODEL; 8.6 CONCLUSION; CHAPTER 9 CONTINUOUS SIMULATION; 9.1 CONTINUOUS SYSTEM; 9.2 CONTINUOUS SIMULATION; 9.3 NUMERICAL SOLUTION TECHNIQUES FOR CONTINUOUS SIMULATION; 9.4 SYSTEM DYNAMICS APPROACH; 9.5 COMBINED DISCRETE-CONTINUOUS SIMULATION; 9.6 CONCLUSION; CHAPTER 10 AGENT-BASED SIMULATION; 10.1 INTRODUCTION; 10.2 AGENT-BASED SIMULATION; 10.3 EXAMPLES OF AGENT-BASED SIMULATION; 10.4 CONCLUSION
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Sommario/riassunto

AN AUTHORITATIVE GUIDE TO COMPUTER SIMULATION GROUNDED IN A MULTI-DISCIPLINARY APPROACH FOR SOLVING COMPLEX PROBLEMS Simulation and Computational Red Teaming for Problem Solving offers a review of computer simulation that is grounded in a multi-disciplinary approach. The authors present the theoretical foundations of simulation and modeling paradigms from the perspective of an analyst. The book provides the fundamental background information needed for designing and developing consistent and useful simulations. In addition to this basic information, the authors explore several advanced topics. The book's advanced topics demonstrate how modern artificial intelligence and computational intelligence concepts and techniques can be combined with various simulation paradigms for solving complex and critical problems. Authors examine the concept of Computational Red Teaming to reveal how the combined fundamentals and advanced techniques are used successfully for solving and testing complex real-world problems. This important book: . Demonstrates how computer simulation and Computational Red Teaming support each other for solving complex problems. Describes the main approaches to modeling real-world phenomena and embedding these models into computer simulations. Explores how a number of advanced artificial intelligence and computational intelligence concepts are used in conjunction with the fundamental aspects of simulation Written for researchers and students in the computational modelling and data analysis fields, Simulation and Computational Red Teaming for Problem

	Solving covers the foundation and the standard elements of the process of building a simulation and explores the simulation topic with a modern research approach.

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Nota di contenuto

-- Computer Vision. -- Query-Efficient Stealing Attacks Against Image Encoders. -- WFSFA-Net: Weighted Feature Supplementation and Cross-modal Feature Alignment for Visible-Infrared Person Re-Identification. -- JaPOC: Japanese Post-OCR Correction Benchmark using Vouchers. -- Viewpoint Modeling with Multi-Task Learning for Vehicle Re-Identification. -- Optimal Illumination Distance Metrics for Person Re-identification. -- Video-Audio Multimodal Fall Detection Method in Challenging Conditions. -- Space-View Decoupled 3D Gaussians for Novel-View Synthesis of Mirror Reflections. -- Multi-Scale Traffic Camera Image Detection Network Based on Improved YOLOv8. -- Node-level lymph node automatic segmentation in CT images using deep parallel structure-related 3D U-net variant. -- Prior Mask-Guided Highly Accurate Dichotomous Image Segmentation. -- Text to Image Generation Based on Adaptive Attention. -- TEBN: Texture-Enhanced Branching Network for Fine-Grained Tea Classification. -- Splitting Objectives: A Method for Improving Training Process of Image Generation Models. -- YOLO-SOD: Improved YOLO Small Object detection. -- Sparse Context Transformer for Few-Shot Object Detection. -- RSANet: Relationship-aware Symmetric Alignment Network for Fine-grained Video-Text Retrieval. -- UDUIE: Unpaired Domain-Irrelevant Underwater Image Enhancement. -- Zero-shot Referring Image Segmentation with Hierarchical Prompts and Frequency Domain Fusion. -- Autonomous Driving. -- Enhance Statistical Features with Changepoint Detection for Driver Behaviour Analysis. -- MSAN: Multi-Scale Adaptive Network Guided by Human Attention for Accident Prediction. -- S2A-Attention for Multimodal 3D Semantic Segmentation Using LiDAR and Cameras in Autonomous Driving. -- Agents and Multiagent Systems. -- Automated Negotiation Mechanisms for Autonomous Vehicles at Intersections. -- Enhancing the Efficiency of Systems with Overlapping Coalition Formation. -- Incentive Mechanism Design for ROI-Constrained Auto-Bidding. -- Knowledge Graphs. -- Predicting from a Different Perspective: A Re-ranking Model for Inductive Knowledge Graph Completion. -- TeMME: Temporal Knowledge Graph Completion using Multi-grade Multivector Embeddings. -- Highway Gates Dynamic Adaptation Network For Knowledge Graph Entity Alignment. -- Speech Processing. -- Low-Resource VITS-Based Emotion Speech Synthesis Using KNN Algorithm. -- MSCACodec : A Low-rate Neural Speech Codec With Multi-scale Residual Channel Attention. -- Expressive Speech Synthesis Enhancement with Conditional Embeddings. -- Integrating Voice Activity Detection to Enhance Robustness of On-Device Speaker Verification. -- Spoofing Speech Detection Method Based on Self-Supervised Front End and Feature Enhancement. -- Optimization. -- Iterative Fine-grained Genetic Algorithm for Inferring Connection Weights in large-scale Biophysical Mouse V1 model. -- An Improved Multi-objective Particle Swarm Optimization Algorithm with Reduced Initial Search Space. -- Balancing Immediate Revenue and Future Off-Policy Evaluation in Coupon Allocation. -- Robust portfolio optimization for recommender systems considering uncertainty of estimated statistics.

Sommario/riassunto

The five-volume proceedings set LNAI 15281-15285, constitutes the refereed proceedings of the 21st Pacific Rim International Conference on Artificial Intelligence, PRICAI 2024, held in Kyoto, Japan, in November 18–24, 2024. The 145 full papers and 35 short papers included in this book were carefully reviewed and selected from 543 submissions. The papers are organized in the following topical sections: Part I: Machine Learning, Deep Learning Part II: Deep Learning, Federated Learning, Generative AI, Natural Language Processing, Large

Language Models, Part III: Large Language Models, Computer Vision Part IV: Computer Vision, Autonomous Driving, Agents and Multiagent Systems, Knowledge Graphs, Speech Processing, Optimization Part V: Optimization, General Applications, Medical Applications, Theoretical Foundations of AI.