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Altri autori (Persone)	LiuHonghai LiuLianqing YinZhouping ZhuXiangyang RenWeihong WangZhiyong ShengYixuan
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Nota di contenuto	-- Magnetic Actuated Microrobots for Biomedical EngineeringDesign, Control, and Application. -- Dynamic Parameter Identification in Haptic Robotic Systems via Artificial Bee Colony. -- Template-Free Magnetic

Programming Strategy for 3D-Transformable Soft Robots. -- Physics-Based Simulation of Magnetic Nanorobots Swarm. -- Dynamic Path Planning and Automatic Navigation for Microswarms. -- Reinforcement Learning-Based Magnetic Levitation Control of a Capsule Endoscope for Path Tracking Using a Single Permanent Magnet. -- Simulator for Identifying Contact-Prone Robot Parts to Accelerate Contact Judgment between Needle Puncture Robot and Patient. -- Innovative Design and Performance Evaluation of Robot Mechanisms. -- Autonomous Bolt Assembly Composite Robotic System Guided by Binocular Vision. -- Design and Simulation of a Bipedal Robot for Explosive Jumping Based on a Hybrid Linkage-Cam Mechanism. -- Topological Analysis and Perception of Physical Vibration in Distributed Optical Fiber Vibration Sensing. -- Design and Optimization of a Heavy-Duty Parallel Ship Motion Simulation Platform. -- Design and Analysis of a new Multiparameter Reconfigurable Morphing Wing. -- Experimental Study and Analysis of Wheel-Terrain Interaction for Crewed Lunar Vehicle Based on Single-Wheel Testbed. -- Research on the Dynamics Modeling and Control Method of Vector Quadrotor UAV with Variable Posture. -- A Probability Theory-Based Method for Calculating the Cyclical Degree of Freedom of Mechanisms. -- Design and Analysis of Variable Geometry Truss Robot. -- AMM: An Aerial Modular Manipulator Based on Standardized Modules. -- Structural Design and Simulation of Space Sleeve-Type Extension Arm. -- Balloon Robot: Movement Recognition and Design of Robot. -- Time-Optimal Trajectory Planning for Hybrid Redundant Robotic Arm Based on Prescribed Waypoints. -- Conceptual Design and Kinematic Analysis of a Biomimetic Robot Joint (BRJ) Based on a Higher Pair Mechanism. -- Sensation-Perception-Actuation-Rehabilitation Oriented Technologies for Wearable Exoskeletons. -- Muscle Synergy-Enabled Multimodal Swimming Motion Recognition. -- Estimation of Human Lower Limb Kinematic Parameters based on A-mode ultrasound sensing. -- Human Lower Limb Motor Ability Estimation Based on Human-Machine Coupling Interactive Contact Model. -- Integrated Analysis of Cortico-Muscular Coupling and Muscle Synergy for Functional Assessment in Exoskeleton-Assisted Stroke Rehabilitation. -- Multidimensional Kinematic Analysis of Walking and Turning in Older Adults Using IMUs. -- Development of a Functional Electrical Stimulation Device Combined with Multi-modal Muscle Status Monitoring. -- BioKFusion-Net: Simultaneous Estimation of Ground Reaction Forces/Moments and Joint Angles from IMU Data. -- Effects of Rhythmic Auditory Cues on Brain Network Characterization During Human Gait Initiation. -- Effects of Exoskeleton-Assisted Sit-to-Stand Training Based on Cortical-Muscular Coherence. -- Pattern Analysis and Machine Intelligence: Vision, Language, Multimodal Learning, and Applications. -- TGP: Two-modal occupancy prediction with 3D Gaussian and sparse points for 3D Environment Awareness. -- YOLO-HG: A Hierarchical Global Perception Method for heavy-duty Truck Parking Space Detection. -- An Accurate 3D Reconstruction Method for Large Workpieces Based on 3D Vision. -- Insulator and Its Defect Detection Framework Based on Feature Enhancement CenterNet. -- Adaptive 3D Scene Analysis throughMulti-Modal Feature Integration and Geometric Pattern Recognition. -- Global to Local Mamba Low Light Image Restoration. -- A Comparative Study of First and Second-Order Gradient Acceleration in ICP. -- Visual-Tactile Fusion-driven Diffusion Policy for Robotic Excavation of Semi-Buried Object in Granular Media. -- RCTAMP: Enhancing Rule-Constrained TAMP via Multi-Agent Closed-Loop Collaboration Integrating Consensus Planning. -- Efficient Skeleton-based Action Segmentation via Multi-Granularity Perception. -- Tri-axial Plantar

Load Sensing for Identity Authentication with 1D-CNN Classifier. -- Exploring the Mechanism Underlying Lower Limb Motor Dysfunction in Ischemic Stroke Based on Multimodal Signals. -- FuPaD: Scalable Pose Estimation by Fusing Patch-wise VGGT with Dense Bundle Adjustment. -- ScaffoldOcc: Sparse Points Anchored Scaffold 3D Gaussian for Hierarchical Semantic Occupancy Prediction. -- Dynamic Memory Reconciliation for Online Action Detection. -- Enhance Polyp Segmentation via Supervised Contrastive Learning. -- Online Prediction of Surface Roughness in Robotic Grinding System for TC4 Workpieces Using PSO-XGBoost Algorithm. -- Cross-Subject Respiratory State Recognition Based on Ultrasonic and IMU Signals. -- Bio-mechatronic Integration and Rehabilitation Robots. -- Hybrid Pole Placement and Interval Type-2 Fuzzy Control for Bio-Inspired Tendon-Driven Robotic Leg Stabilization. -- Continuous Estimation Algorithm of Elbow Joint Angle Based on Mamba Model. -- A bone grinding depth prediction method based on multimodal sensing information. -- Research on Parameter Adaptive Electrical Stimulation System Based on WBAN. -- MBGADNet: Multi-Branch Generative Adversarial Denoising Network with Semantic Preservation for EEG Artifact Removal. -- Design Optimization of Frameless Drive Motor in Robot Integrated Modular Actuator Considering Duty Cycle Suitability. -- Cluster-guided State Initialization Strategy for Flexible Humanoid Locomotion. -- Design and modeling of A Modular Cable-Driven Lower-limb Exoskeleton with Compact Torque Sensors.

Sommario/riassunto

The 3-volume set, LNAI 16074-16076, constitutes the proceedings of the 18th International Conference on Intelligent Robotics and Applications, ICIRA 2025, which took place in Okayama, Japan, during August 6-9, 2025. The 165 full papers included in these proceedings were carefully reviewed and selected from 329 submissions. They were organized in topical sections as follows: Part 1: Robotic Dexterous Manipulation and Intelligent Control; Intelligent Perception and Control Technologies for Marine Robotic Systems; Intelligent Technology in Neural Decoding, Modulation, and Interfacing; Wearable Robots for Assistance, Augmentation and Rehabilitation of Human Movements; Soft Robotics. Part 2: Hand-Centric Human-Robot Collaboration Advances in Perception, Control, and Interaction; Intelligent Technology in Healthcare; Advanced Localization, Navigation and Control Technologies in Intelligent Robotic Systems; Wearable Robotics for Gait Analysis, Training, and Rehabilitation; Embodied Intelligence in Biomimetic Robotics, Humanoid Robotics. Part 3: Magnetic Actuated Microrobots for Biomedical EngineeringDesign, Control, and Application; Innovative Design and Performance Evaluation of Robot Mechanisms; Sensation-Perception-Actuation-Rehabilitation Oriented Technologies for Wearable Exoskeletons; Pattern Analysis and Machine Intelligence: Vision, Language, Multimodal Learning, and Applications; Bio-mechatronic Integration and Rehabilitation Robots.