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Nota di contenuto	-- Robotics in Cooperative Manipulation, MultiSensor Fusion, and Multi-Robot Systems. .-Dense Point Cloud Upsampling Method for Coal Mine Tunnels Based on Upsampling. -- Optimal Strategies for Multiple Agents in Homicidal Chauffeur Reach-Avoid Games via Potential Game-Based Matching. -- A Novel Mission Planning Method for Multi-robot Collaborative Area Coverage. -- Layout optimization of a

heterogeneous multi-robot system for mirror milling. -- An Automatic Weighting Decision-making Framework for Trajectory Tracking of the Overactuated UAVs Platform. -- Multi-sensor Fusion Localization and Terrain Reconstruction for Guided Quadruped Robots. -- Multi-modal Cooperative Perception of Constrained Multi-UAV Platform. -- Obstacle Avoidance for Guided Quadruped Robots in Complex Environments. -- Human-machine Co-adaptive Interface. -- 3D Rock and Pothole Detection in Desert for the Wild Navigation. -- Learning Adaptive Edge Dual-Graph Convolutional Network for Robust Point Cloud Analysis. -- AttenS: an Attentive Selection Method for Communication-Efficient Cooperative Perception. -- An Analytical Inverse Kinematics Optimization Method of 7-DOF anthropomorphic manipulators with joint limits. -- Event Camera Localization in 3D LiDAR Maps. -- Enhanced YOLOv8 integrated brain-inspired attention mechanisms for weed detection. -- Brain-inspired visual language navigation robot position deviation correction. -- Psychological Conditions Analysis based on Text Detection and Facial Expression Recognition. -- Integrating Retinex theory for YOLO-based Object Detection in Low-illumination Environments. -- Remote Sensing Infrared Weak and Small Target Detection Method Based on Improved YOLOv5 and Data Augmentation. -- Vehicle detection method in foggy weather based on YOLO with human eye mechanisms. -- Planning, control and application of bionic novel concept robots. -- A Water Surface Jumping Robot Inspired by the Pygmy Mole Cricket. -- Real-time Path Planning Under Signal Temporal Logic Specifications in Dynamic Environment. -- An Enhanced DMP Approach for Robotic Manipulator Autonomous Obstacle Avoidance Using Dynamic Potential Function. .-Free-form Instruction Guided Robotic Navigation Path Planning with Large Vision-Language Model. -- A Forward Kinematics Solution Method for Cable-Driven Hyper-Redundant Manipulators Based on Self-Attention Mechanism. -- A Physics-based Simulator for Bi-directional Motor Driven Flapping Wing Micro Air Vehicles. -- Active disturbance rejection control of telescopic-wing morphing aircraft: Accommodating composite disturbances. -- Robust Perception for Safe Driving. -- A Variable Parameter LoD Model Point Cloud Compression Method Based on Attention Mechanism. -- A Dynamical Systems-Based Peg-in-Hole Assembly Method using Temporal Logic Task Planner. -- Development of a Multi-channel Wireless Wearable Muscle Oxygen Monitoring Device. -- A Robust Identification Method for Robot Drive Gains Using a Payload. -- A Neuromorphic Tactile Perception System Based on Spiking Neural Network for Texture Recognition. -- Gait Recognition Based on A-Mode Ultrasound and Inertial Sensor Fusion Systems. -- Motion Planning via Deep Reinforcement Learning and Nerf-Based Layering for Mobile Robots with Different Heights. -- Structural Design and Motion Analysis of a Wall-Pressing In-Pipe Robot Based on Mecanum Wheels. -- Brain inspired intelligence for robotics.

Sommario/riassunto

The 10-volume set LNAI 15201-15210 constitutes the proceedings of the 17th International Conference on Intelligent Robotics and Applications, ICIRA 2024, which took place in Xi'an, China, during July 31–August 2, 2024. The 321 full papers included in these proceedings were carefully reviewed and selected from 489 submissions. They were organized in topical sections as follows: Part I: Innovative Design and Performance Evaluation of Robot Mechanisms. Part II: Robot Perception and Machine Learning; Cognitive Intelligence and Security Control for Multi-domain Unmanned Vehicle Systems. Part III: Emerging Techniques for Intelligent Robots in Unstructured Environment; Soft Actuators and Sensors; and Advanced Intelligent and Flexible Sensor

Technologies for Robotics. Part IV: Optimization and Intelligent Control of Underactuated Robotic Systems; and Technology and application of modular robots. Part V: Advanced actuation and intelligent control in medical robotics: Advancements in Machine Vision for Enhancing Human-Robot Interaction; and Hybrid Decision-making and Control for Intelligent Robots. Part VI: Advances in Marine Robotics; Visual, Linguistic, Affective Agents: Hybrid-augmented Agents for Robotics; and Wearable Robots for Assistance, Augmentation and Rehabilitation of human movements. Part VII: Integrating World Models for Enhanced Robotic Autonomy; Advanced Sensing and Control Technologies for Intelligent Human-Robot Interaction; and Mini-Invasive Robotics for In-Situ Manipulation. Part VIII: Robot Skill Learning and Transfer; Human-Robot Dynamic System: Learning, Modelling and Control; AI-Driven Smart Industrial Systems; and Natural Interaction and Coordinated Collaboration of Robots in Dynamic Unstructured Environments. Part IX: Robotics in Cooperative Manipulation, MultiSensor Fusion, and Multi-Robot Systems; Human-machine Co-adaptive Interface; Brain inspired intelligence for robotics; Planning, control and application of bionic novel concept robots; and Robust Perception for Safe Driving. Part X: AI Robot Technology for Healthcare as a Service; Computational Neuroscience and Cognitive Models for Adaptive Human-Robot Interactions; Dynamics and Perception of Human-Robot Hybrid Systems; and Robotics for Rehabilitation: Innovations, Challenges, and Future Directions.