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Nota di contenuto	-- .Advances in Marine Robotics. -- AUV control system interface development based on Qt platform. -- Improved Multi-objective Particle Swarm Algorithm for AUV Path Planning in Ocean Currents Environment. -- Dynamics Analysis of Reconfigurable Underwater Vehicle-Manipulator System for Docking Application. -- Learning-Based Model Predictive Control for Addressing Model Mismatch in AUV

Trajectory Tracking. -- Disturbance Rejection MPC for Tracking of Autonomous Underwater Vehicle. -- Kalman Filter-based acoustic guidance docking system for autonomous underwater vehicle. -- Informative Path Planning for Multi-UUV Cooperative Search with Distributed Q-Learning. -- A Novel Ocean Current Prediction Algorithm Based On Attention LSTM Neural Network. -- Depth tracking control of unmanned underwater vehicle with roll suppression. -- Development of a Cleaning ROV for High-Temperature Radioactive Environment. -- Research on Underwater Grasper with Non-Contact Swirling Suction Cups. -- Lightweight Maritime Ship Object Detection Based on YOLOv7-Tiny. -- Fish surface damage detection with improved YOLOv7. -- Visual, Linguistic, Affective Agents: Hybrid-augmented Agents for Robotics. -- Fast Visual-Inertial Odometry with Adaptive Feature Coupling. -- Sentiment Caption Generation from Visual Scene Using the Pre-trained Language Model. -- Recognition and Grasping of 3D Printed Concrete Reinforced Structural Parts Based on Visual Guidance. -- Innovations in Real-Time Measurement of Parcel Volume via Depth Map Collision Line Tracing Techniques. -- Research on Road Defect Detection Algorithm Based on LD-YOLOv8. -- SK-EEGNet: A Novel Multiscale EEGNet Improved by SKNet for RSVP-based Target Detection. -- Playing Non-Embedded Card-Based Games with Reinforcement Learning. -- A Two-step Measuring Method of Reference Holes in Robotic Drilling of Large Component. -- Few-Shot N-Ary Knowledge Inference Using Large Language Models. -- Sim-to-Real Control of Trifinger Robot by Deep Reinforcement Learning. -- BSGM: Psychological State Analysis Method Based on Deep Learning and Stock Market Dynamic Data Augmentation. -- Enhancing Troubleshooting Task-Oriented Dialog Systems with Large Language Models. -- Wearable Robots for Assistance, Augmentation and Rehabilitation of human movements. -- Adaptive position-based visual servoing of robot manipulators with pose observers. -- Design and Development of a Five-Degree-of-Freedom Knee Joint Rehabilitation Robot with Multimode Signal Monitoring. -- A miniature programmable multichannel sensory feedback device with electrotactile and vibrotactile modalities for amputees. -- Test-Based Model-Free Adaptive Iterative Learning Control for Trajectory Tracking of a Pneumatic Ankle-Foot Exoskeleton. -- Sensorless Safe Interaction Method for Novel Tendon-driven SuperLimb Based on Dynamic Parameter Identification. -- IMU-Based Human Ground Reaction Force Estimation Method. -- A medical robot based on an improved water-bomb origami continuum. .-Design of a Bidirectional Force-feedback Exoskeleton Glove. -- Dynamic Optimization of Spatial Parallel Robot with Lubrication Clearance.

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.