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Livello bibliografico	Monografia
Nota di contenuto	Promoting Constructive Interaction and Moral Behaviors using Adaptive Empathetic Learning -- A Fast Visual Feature Matching Algorithm in Multi-Robot Visual SLAM -- Mechanical Design and Kinematic Control of a Humanoid Robot Face -- LTF Robot: Binocular Robot with Laser-point Tracking and Focusing Function -- New rigid-soft coupling structure and its stiffness adjusting device -- Capacitive Sensing Based Knee-Angle Continuous Estimation by BP Neural Networks -- Concept

and Prototype Design of A Soft Knee Exoskeleton with Continuum Structure (SoftKEX) -- An Improved Model to Estimate Muscle-tendon Mechanics and Energetics During Walking With a Passive Ankle Exoskeleton -- Modeling and analysis of human lower limb in walking motion -- A Self-Calibration Method for Mobile Manipulator -- Design and Development of a Linkage-Tendon Hybrid Driven Anthropomorphic Robotic Hand -- Predict Afferent Tactile Neural Signal for Artificial Nerve Based on Finite Element Human Hand Model -- Screw Displacement and Its Application to the In Vivo Identification of Finger Joint Axes -- A Cell Manipulation Method Based on Stagnation Point of Swirl -- Adaptive Threshold Processing of Secondary Electron Images in Scanning Electron Microscope -- Experimental study of the behavior of muscle cells on projection micro-stereolithography printed micro-structures -- Automatic micropipette tip detection and focusing in industrial micro-imaging system -- Morphologic Reconstruction of 2D Cellular Micro-scaffold Based on Digital Holographic Feedback -- An improved artificial potential field method for Path planning of mobile robot with subgoal adaptive selection -- Trajectory Planning for Digital Camouflage Spray Painting Robot Based on Projection Method -- Autonomous Fault-Tolerant Gait Planning Research for Electrically Driven Large-Load-Ratio Six-Legged Robot -- Long-term Real-time Correlation Filter Tracker for Mobile Robot -- IMU-aided Ultra-Wideband Based Localization for Coal Mine Robots.-Analysis and Optimization of the Drive System of the Mobile Robot Arm in Unmanned Mining Working Face -- A Flexure-based XY Precision Positioning Stage with Integrated Displacement PVDF Sensor -- A Generalized Mathematical Model for the Bridge-type and Lever-type Mechanism -- A novel giant magnetostrictive driven-vibration isolation stage based on compliant mechanism -- Topological synthesis of compliant mechanisms using a level set-based robust formulation -- Design and Modeling of a Continuous Soft Robot -- Flexure-Based Variable Stiffness Gripper for Large-Scale Grasping Force Regulation with Vision -- Kinetostatic modeling of redundantly actuated planar compliant parallel mechanism -- Design of screw fastening tool based on SEA -- Design of Morphing Wing Leading Edge with Compliant Mechanism -- A Novel Flexure Deflection Device with Damping Function Towards Laser Reflector of 3D Lithography -- Design and Analysis of a Planar 3-DOF Large Range Compliant Mechanism with Leaf-type Flexure -- Video-Guided Sound Source Separation -- In-hand manipulation for active object recognition -- Designing Bionic Path Robots to Minimize the Metabolic Cost of Human Movement -- Adaptive whole-arm grasping approach of tumbling space debris by two coordinated hyper-redundant manipulators -- Development of Bolt Screwing Tool Based on Pneumatic Slip Ring -- Deep Grasping Prediction with Antipodal Loss for Dual Arm Manipulators -- Artificial Neural Network based Tactile Sensing Unit for Robotic Hand -- Bounded Recursive Optimization Approach for Pose Estimation in Robotic Visual Servoing -- The Energy Management for the impact/vibration control in the Non-cooperative Space Target Capture -- Force Analysis and Experiment of Variable Stiffness Soft Actuator Based on Particle Jamming -- Close-range Angles-only Relative Navigation of Multi-Agent Cluster for On-orbit Servicing Mission -- Deep learning based noise level classification of Medical images -- Deep Learning Based Gesture Recognition and Its Application in Interactive Control of Intelligent Wheelchair -- Cross-Subject EEG-Based Emotion Recognition with Deep Domain Confusion -- Development of Mixed Reality Robot Control System Based on HoloLens -- Improvement of Mask-RCNN Object Segmentation Algorithm -- The

multi-section design of a novel soft pneumatic robot arm with variable stiffness -- Nonlinear Finite Element Simulation and Analysis of Double Circular Arc Spiral Bevel Gear Nutation Drive -- Design and analysis of gear profile of two-tooth difference swing-rod movable teeth transmission system -- TRANSMISSION ERROR SIMULATION ANALYSIS FOR RV REDUCER WITH ORTHOGONAL EXPERIMENT METHOD -- Design and finite element analysis of fiber-reinforced soft pneumatic actuator -- Configuration Design and Simulation of Novel Petal Tooth Nutation Joint Drive for Robot -- A bio-inspired self-repair approach for modular self-reconfigurable robots -- Reconfigurable design and structure optimization of SCARA -- Modular Design of 7-DOF Cable-Driven Humanoid Arms -- Design and Locomotion Analysis of a Retractable Snake-like Robot Based on 2-RRU/URR Parallel Module -- A Nonsqueezing Torque Distribution Method for an Omnidirectional Mobile Robot with Powered Castor Wheels -- A Two-Step Self-Calibration Method with Portable Measurement Devices for Industrial Robots Based on POE Formula -- Obstacle Avoidance of a redundant robot using virtual force field and null space projection -- Modeling of Torque Ripple for Integrated Robotic Joint.

Sommario/riassunto

The volume set LNAI 11740 until LNAI 11745 constitutes the proceedings of the 12th International Conference on Intelligent Robotics and Applications, ICIRA 2019, held in Shenyang, China, in August 2019. The total of 378 full and 25 short papers presented in these proceedings was carefully reviewed and selected from 522 submissions. The papers are organized in topical sections as follows: Part I: collective and social robots; human biomechanics and human-centered robotics; robotics for cell manipulation and characterization; field robots; compliant mechanisms; robotic grasping and manipulation with incomplete information and strong disturbance; human-centered robotics; development of high-performance joint drive for robots; modular robots and other mechatronic systems; compliant manipulation learning and control for lightweight robot. Part II: power-assisted system and control; bio-inspired wall climbing robot; underwater acoustic and opticalsignal processing for environmental cognition; piezoelectric actuators and micro-nano manipulations; robot vision and scene understanding; visual and motional learning in robotics; signal processing and underwater bionic robots; soft locomotion robot; teleoperation robot; autonomous control of unmanned aircraft systems. Part III: marine bio-inspired robotics and soft robotics: materials, mechanisms, modelling, and control; robot intelligence technologies and system integration; continuum mechanisms and robots; unmanned underwater vehicles; intelligent robots for environment detection or fine manipulation; parallel robotics; human-robot collaboration; swarm intelligence and multi-robot cooperation; adaptive and learning control system; wearable and assistive devices and robots for healthcare; nonlinear systems and control. Part IV: swarm intelligence unmanned system; computational intelligence inspired robot navigation and SLAM; fuzzy modelling for automation, control, and robotics; development of ultra-thin-film, flexible sensors, and tactile sensation; robotic technology for deep space exploration; wearable sensing based limb motor function rehabilitation; pattern recognition and machine learning; navigation/localization. Part V: robot legged locomotion; advanced measurement and machine vision system; man-machine interactions; fault detection, testing and diagnosis; estimation and identification; mobile robots and intelligent autonomous systems; robotic vision, recognition and reconstruction; robot mechanism and design. Part VI: robot motion analysis and planning; robot design, development and

control; medical robot; robot intelligence, learning and linguistics; motion control; computer integrated manufacturing; robot cooperation; virtual and augmented reality; education in mechatronics engineering; robotic drilling and sampling technology; automotive systems; mechatronics in energy systems; human-robot interaction.