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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Best Paper -- Instance-Based Action Models for Fast Action Planning -- Best Student Paper -- Precise Extraction of Partially Occluded Objects by Using HLAC Features and SVM -- Full Papers -- Probabilistic Decision Making in Robot Soccer -- Multi-robot Cooperative Localization through Collaborative Visual Object Tracking -- Cooperative Object Localization Using Line-Based Percept Communication -- Adaptive Recognition of Color-Coded Objects in Indoor and Outdoor Environments -- 3D Tracking by Catadioptric Vision Based on Particle Filters -- Improving Vision-Based Distance Measurements Using Reference Objects -- Cooperative/Competitive Behavior Acquisition Based on State Value Estimation of Others -- Beyond Frontier Exploration -- Robot Building for Preschoolers -- A Simulation Environment for Middle-Size Robots with Multi-level Abstraction -- Improving Robot Self-localization Using Landmarks' Poses Tracking and Odometry Error Estimation -- Generating Dynamic Formation Strategies Based on Human Experience and Game Conditions -- Model-Based Reinforcement Learning in a Complex Domain -- HMDP: A New Protocol for Motion Pattern Generation Towards Behavior Abstraction -- A Fuzzy Controller for Autonomous Negotiation of Stairs by a Mobile Robot with Adjustable Tracks -- Solving Large-Scale and Sparse-Reward DEC-POMDPs with Correlation-MDPs -- Short Papers

(Posters) -- Heuristic Reinforcement Learning Applied to RoboCup Simulation Agents -- Pareto-Optimal Offensive Player Positioning in Simulated Soccer -- Rational Passing Decision Based on Region for the Robotic Soccer -- Automatic On-Line Color Calibration Using Class-Relative Color Spaces -- An Application of Gaussian Mixtures: Colour Segmenting for the Four Legged League Using HSI Colour Space -- Model Checking Hybrid Multiagent Systems for the RoboCup -- Physical Simulation of the Dynamical Behavior of Three-Wheeled Omni-directional Robots -- Intuitive Plan Construction and Adaptive Plan Selection -- Semi-autonomous Coordinated Exploration in Rescue Scenarios -- A Deeper Look at 3D Soccer Simulations -- Mean-Shift-Based Color Tracking in Illuminance Change -- High Accuracy Navigation in Unknown Environment Using Adaptive Control -- Evolutionary Design of a Fuzzy Rule Base for Solving the Goal-Shooting Problem in the RoboCup 3D Soccer Simulation League -- Behavioral Cloning for Simulator Validation -- A Model-Based Approach to Calculating and Calibrating the Odometry for Quadruped Robots -- A Framework for Learning in Humanoid Simulated Robots -- Let Robots Play Soccer under More Natural Conditions: Experience-Based Collaborative Localization in Four-Legged League -- Strategic Layout of Multi-cameras Based on a Minimum Risk Criterion -- Region-Based Segmentation with Ambiguous Color Classes and 2-D Motion Compensation -- Multi-agent Positioning Mechanism in the Dynamic Environment -- Layered Learning for a Soccer Legged Robot Helped with a 3D Simulator -- Self-localization Using Odometry and Horizontal Bearings to Landmarks -- Incremental Generation of Abductive Explanations for Tactical Behavior -- Implementing Parametric Reinforcement Learning in Robocup Rescue Simulation -- Obtaining the Inverse Distance Map from a Non-SVP Hyperbolic Catadioptric Robotic Vision System -- Tailored Real-Time Simulation for Teams of Humanoid Robots -- Evolution of Biped Walking Using Neural Oscillators and Physical Simulation -- Robust Object Recognition Using Wide Baseline Matching for RoboCup Applications -- Detection of AIBO and Humanoid Robots Using Cascades of Boosted Classifiers -- A Scalable Hybrid Multi-robot SLAM Method for Highly Detailed Maps -- A Force Sensor Made by Diaphragm Pattern Mounted on a Deformable Circular Plate -- Crossed-Line Segmentation for Low-Level Vision -- A Neural Network-Based Approach to Robot Motion Control -- Dynamic Positioning Method Based on Dominant Region Diagram to Realize Successful Cooperative Play -- Introducing Physical Visualization Sub-league -- A Real Time Vision System for Autonomous Systems: Characterization during a Middle Size Match -- ViRbot: A System for the Operation of Mobile Robots -- Grounded Representation Driven Robot Motion Design -- Design of Design Methodology for Autonomous Robots -- Opponent Provocation and Behavior Classification: A Machine Learning Approach -- Robust Color Classification Using Fuzzy Reasoning and Genetic Algorithms in RoboCup Soccer Leagues -- Compliance Control for Biped Walking on Rough Terrain.

Sommario/riassunto

This book constitutes the proceedings of the 11th RoboCup International Symposium, held in Atlanta, GA, USA, in July 2007, immediately after the 2007 RoboCupSoccer, RoboCupRescue and RoboCupJunior competitions. Papers presented at the symposium focused on topics related to these three events and to artificial intelligence and robotics in general. The 18 revised full papers and 42 revised poster papers included in the book were selected from 133 submissions. Each paper was reviewed by at least three program committee members. The program committee also nominated two

papers for the Best Paper and Best Student Paper awards, respectively. The book provides a valuable source of reference and inspiration for R&D professionals and educationalists active or interested in robotics and artificial intelligence.