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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cognition -- Vision, Logic, and Language – Toward Analyzable Encompassing Systems -- A Computational Model of Human Movement Coordination -- BiosignalsStudio: A Flexible Framework for Biosignal Capturing and Processing -- Local Adaptive Extraction of References -- Logic-Based Trajectory Evaluation in Videos -- Human-Machine Interaction -- A Testbed for Adaptive Human-Robot Collaboration --

Human Head Pose Estimation Using Multi-appearance Features -- Online Full Body Human Motion Tracking Based on Dense Volumetric 3D Reconstructions from Multi Camera Setups -- On-Line Handwriting Recognition with Parallelized Machine Learning Algorithms -- Planning Cooperative Motions of Cognitive Automobiles Using Tree Search Algorithms -- Static Preference Models for Options with Dynamic Extent -- Towards User Assistance for Documents via Interactional Semantic Technology -- Knowledge -- Flexible Concept-Based Argumentation in Dynamic Scenes -- Focused Belief Revision as a Model of Fallible Relevance-Sensitive Perception -- Multi-context Systems with Activation Rules -- Pellet-HeaRT – Proposal of an Architecture for Ontology Systems with Rules -- Putting People's Common Sense into Knowledge Bases of Household Robots -- Recognition and Visualization of Music Sequences Using Self-organizing Feature Maps -- Searching for Locomotion Patterns that Suffer from Imprecise Details -- World Modeling for Autonomous Systems -- Machine Learning and Data Mining -- A Probabilistic MajorClust Variant for the Clustering of Near-Homogeneous Graphs -- Acceleration of DBSCAN-Based Clustering with Reduced Neighborhood Evaluations -- Adaptive ?-Greedy Exploration in Reinforcement Learning Based on Value Differences -- Learning the Importance of Latent Topics to Discover Highly Influential News Items -- Methods for Automated High-Throughput Toxicity Testing Using Zebrafish Embryos -- Visualizing Dissimilarity Data Using Generative Topographic Mapping -- Planing and Reasoning -- An Empirical Comparison of Some Multiobjective Graph Search Algorithms -- Completeness for Generalized First-Order LTL -- Instantiating General Games Using Prolog or Dependency Graphs -- Plan Assessment for Autonomous Manufacturing as Bayesian Inference -- Positions, Regions, and Clusters: Strata of Granularity in Location Modelling -- Soft Evidential Update via Markov Chain Monte Carlo Inference -- Strongly Solving Fox-and-Geese on Multi-core CPU -- The Importance of Statistical Evidence for Focussed Bayesian Fusion -- The Shortest Path Problem Revisited: Optimal Routing for Electric Vehicles -- Robotics -- A Systematic Testing Approach for Autonomous Mobile Robots Using Domain-Specific Languages -- Collision Free Path Planning for Intrinsic Safety of Multi-fingered SDH-2 -- Dynamic Bayesian Networks for Learning Interactions between Assistive Robotic Walker and Human Users -- From Neurons to Robots: Towards Efficient Biologically Inspired Filtering and SLAM -- Haptic Object Exploration Using Attention Cubes -- Task Planning for an Autonomous Service Robot -- Towards Automatic Manipulation Action Planning for Service Robots -- Towards Opportunistic Action Selection in Human-Robot Cooperation -- Trajectory Generation and Control for a High-DOF Articulated Robot with Dynamic Constraints -- Adaptive Motion Control: Dynamic Kick for a Humanoid Robot -- Special Session: Situation, Intention and Action Recognition -- An Extensible Modular Recognition Concept That Makes Activity Recognition Practical -- Online Workload Recognition from EEG Data during Cognitive Tests and Human-Machine Interaction -- Situation-Specific Intention Recognition for Human-Robot Cooperation -- Towards High-Level Human Activity Recognition through Computer Vision and Temporal Logic -- Towards Semantic Segmentation of Human Motion Sequences.

Sommario/riassunto

The 33rd Annual German Conference on Arti?cial Intelligence (KI 2010) took place at the Karlsruhe Institute of Technology KIT, September 21–24, 2010, under the motto "Anthropomatic Systems." In this volume you will ?nd the keynote paper and 49 papers of oral and poster presentations. The papers were selected from 73 submissions,

resulting in an acceptance rate of 67%. As usual at the KI conferences, two entire days were allocated for targeted workshops—seventhis year—andone tutorial. The workshopand tutorialma- rials are not contained in this volume, but the conference website, www.ki2010.kit.edu,will provide information and references to their contents. Recent trends in AI research have been focusing on anthropomatic systems, which address synergies between humans and intelligent machines. This trend is emphasized through the topics of the overall conference program. They include learning systems, cognition, robotics, perception and action, knowledge rep- sentation and reasoning, and planning and decision making. Many topics deal with uncertainty in various scenarios and incompleteness of knowledge. Summarizing, KI 2010 provides a cross section of recent research in modern AI methods and anthropomatic system applications. We are very grateful that Jos´ edel Mill´ an, Hans-Hellmut Nagel, Carl Edward Rasmussen, and David Vernon accepted our invitation to give a talk.