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Vision-Based Control of Robot Motion -- Korea's Robotland: Merging Intelligent Robotics Strategic Policy, Business Development, and Fun -- Emotion and Behaviour -- Detecting Underlying Stance Adopted When Human Construe Behavior of Entities -- Motion and Emotional Behavior Design for Pet Robot Dog -- Grounding Robot Autonomy in Emotion and Self-awareness -- Human Robot Interaction -- A New Dynamic Edge Detection toward Better Human-Robot Interaction -- Face Recognition Using ALLE and SIFT for Human Robot Interaction -- The Influence of Social Interaction on the Perception of Emotional Expression: A Case Study with a Robot Head -- Towards Humanlike Social Touch for Prosthetics and Sociable Robotics: Handshake Experiments and Finger Phalange Indentations -- Towards Humanlike Social Touch for Prosthetics and Sociable Robotics: Three-Dimensional Finite Element Simulations of Synthetic Finger Phalanges -- Investigating the Effects of Gain and Loss of Esteem on Human-Robot Interaction -- Biped / Humanoid Robotics -- A Simple Momentum Controller for Humanoid Push Recovery -- Optimal Trajectory Generation for Walking Up and Down a Staircase with a Biped Robot Using Genetic Algorithm (GA) -- A Study on the Motion Energy of Biped Robot Walking on Different Postures -- Footstep Planning Based on Univector Field Method for Humanoid Robot -- Tendon Based Full Size Biped Humanoid Robot Walking Platform Design -- FPGA-Based Vocabulary Recognition Module for Humanoid Robot -- Localization, Path Planning, Obstacle Avoidance -- Motivation and Context-Based Multi-Robot Architecture for Dynamic Task, Role and Behavior Selections -- A Robot Localization Method Based on LaserScan Matching -- An Algorithm for Sensory Area Coverage by Mobile Robots Operating in Complex Arenas -- Topological SLAM Using Fast Vision Techniques -- Virtual Door-Based Coverage Path Planning for Mobile Robot -- Vision Module for Mini-robots Providing Optical Flow Processing for Obstacle Avoidance -- Ad-Hoc Communication and Localization System for Mobile Robots -- Control, Communication -- Robotic Implementation of Realistic Reaching Motion Using a Sliding Mode/Operational Space Controller -- Topology Control in Large-Scale High Dynamic Mobile Ad-Hoc Networks -- A Gait Generation for an Unlocked Joint Failure of the Quadruped Robot with Balance Weight -- Development of a Micro Quad-Rotor UAV for Monitoring an Indoor Environment -- Terrain Mapping -- An Improved Method for Real-Time 3D Construction of DTM -- Depth Estimation Using Variant of Depth of Field by Horizontal Planes of Sharp Focus -- A Study on Stereo and Motion Data Accuracy for a Moving Platform -- Classification -- Equivalent Relationship of Feedforward Neural Networks and Real-Time Face Detection System -- Determination of Gender and Age Based on Pattern of Human Motion Using AdaBoost Algorithms.

| Sommario/riassunto | th This volume is an edition of the papers selected from the 12 FIRA RoboWorld C- gress, held in Incheon, Korea, August 16–18, 2009. The Federation of International Robosoccer Association (FIRA – www. fira. net) is a non-profit organization, which organizes robotic competitions and meetings around the globe annually. The RoboSoccer competitions started in 1996 and FIRA was - tablished on June 5, 1997. The Robot Soccer competitions are aimed at promoting the spirit of science and technology to the younger generation. The congress is a forum in which to share ideas and future directions of technologies, and to enlarge the human networks in robotics area. The objectives of the FIRA Cup and Congress are to explore the technical dev- opment and achievement in the field of robotics, and provide participants with a robot festival including technical presentations, robot soccer competitions and exhibits - der the theme "Where Theory and Practice |

Meet." Under the umbrella of the 12th FIRA RoboWorld Congress Incheon 2009, six int- national conferences were held for greater impact and scientific exchange:

• 6th International Conference on Computational Intelligence, Robotics and Autonomous Systems (CIRAS)
• 5th International Symposium on Autonomous Minirobots for Research and Edutainment (AMiRE)
• International Conference on Social Robotics (ICSR)
• International Conference on Advanced Humanoid Robotics Research (ICAHRR)
• International Conference on Entertainment Robotics (ICER)
• International Robotics Education Forum (IREF)

This volume consists of selected quality papers from the six conferences.