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Titolo	Attention and Performance in Computational Vision [[electronic resource]] : Second International Workshop, WAPCV 2004, Prague, Czech Republic, May 15, 2004, Revised Selected Papers // edited by Lucas Paletta, John K. Tsotsos, Erich Rome, Glyn Humphreys
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Collana	Image Processing, Computer Vision, Pattern Recognition, and Graphics ; ; 3368
Disciplina	006.3/7
Soggetti	Optical data processing Artificial intelligence Pattern recognition Computer graphics Neurosciences Control engineering Robotics Mechatronics Image Processing and Computer Vision Artificial Intelligence Pattern Recognition Computer Graphics Control, Robotics, Mechatronics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Attention in Object and Scene Recognition -- Distributed Control of Attention -- Inherent Limitations of Visual Search and the Role of Inner-Scene Similarity -- Attentive Object Detection Using an Information Theoretic Saliency Measure -- Architectures for Sequential Attention -- A Model of Object-Based Attention That Guides Active Visual Search to Behaviourally Relevant Locations -- Learning of

Position-Invariant Object Representation Across Attention Shifts -- Combining Conspicuity Maps for hROIs Prediction -- Human Gaze Control in Real World Search -- Biologically Plausible Models for Attention -- The Computational Neuroscience of Visual Cognition: Attention, Memory and Reward -- Modeling Attention: From Computational Neuroscience to Computer Vision -- Towards a Biologically Plausible Active Visual Search Model -- Modeling Grouping Through Interactions Between Top-Down and Bottom-Up Processes: The Grouping and Selective Attention for Identification Model (G-SAIM) -- TarzaNN : A General Purpose Neural Network Simulator for Visual Attention Modeling -- Applications of Attentive Vision -- Visual Attention for Object Recognition in Spatial 3D Data -- A Visual Attention-Based Approach for Automatic Landmark Selection and Recognition -- Biologically Motivated Visual Selective Attention for Face Localization -- Accumulative Computation Method for Motion Features Extraction in Active Selective Visual Attention -- Fast Detection of Frequent Change in Focus of Human Attention.

Sommario/riassunto

In recent research on computer vision systems, attention has been playing a crucial role in mediating bottom-up and top-down paths of information processing. In applied research, the development of enabling technologies such as miniaturized mobile sensors, video surveillance systems, and ambient intelligence systems involves the real-time analysis of enormous quantities of data. Knowledge has to be applied about what needs to be attended to, and when, and what to do in a meaningful sequence, in correspondence with visual feedback. Methods on attention and control are mandatory to render computer vision systems more robust. The 2nd International Workshop on Attention and Performance in Computational Vision (WAPCV 2004) was held in the Czech Technical University of Prague, Czech Republic, as an associated workshop of the 8th European Conference on Computer Vision (ECCV 2004). The goal of this workshop was to provide an interdisciplinary forum to communicate computational models of visual attention from various viewpoints, such as from computer vision, psychology, robotics and neuroscience. The motivation for interdisciplinarity was communication and inspiration beyond the individual community, to focus discussion on computational modelling, to outline relevant objectives for performance comparison, to explore promising application domains, and to discuss these with reference to all related aspects of cognitive vision. The workshop was held as a single-day, single-track event, consisting of high-quality podium and poster presentations. Invited talks were given by John K. Tsotsos about attention and feature binding in biologically motivated computer vision and by Gustavo Deco about the context of attention, memory and reward from the perspective of computational neuroscience. The interdisciplinary program committee was composed of 21 internationally recognized researchers.
