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Attention and Performance in Computational Vision

Second International Workshop, WAPCV 2004
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Revised Selected Papers

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Preface

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. We received 20 manuscripts responding to the workshop call for papers; each of the papers was assigned at least 3 double-blind reviews; 16 of the papers were accepted, as they corresponded to the requested quality standards and suited the workshop topic; 10 were attributed to 4 thematic oral sessions, and 6 were appropriate for representation as posters. The low rejection rate was commonly agreed to be due to the high quality of the submitted papers.

WAPCV 2004 was made possible by the support and engagement of the European Research Network for Cognitive Computer Vision Systems (ECVision). We are very thankful to David Vernon (Coordinator of ECVision) and Colette Maloney of the European Commission's IST Program on Cognition for their financial and moral support. We are grateful to Radim Sara, for the perfect local organization of the workshop and the registration management. We also wish to thank Christin Seifert, for doing the difficult task of assembling these proceedings.

October 2004

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