Message from the Organizing Committee

HLK 2003

Significant progress has been made during the past two decades in recovering the 3D structure from a set of images, for both static and dynamic scenes. However, the focus has been placed mostly on matching primitive tokens (lines, edges, and regions), followed by recovery of corresponding 3D primitives without regard to their relationships or context in the scene.

Recent approaches have been proposed to exploit intermediate to higher-level knowledge in computer vision. Intermediate knowledge includes meshing, surfaces, ordering, occlusion, and parallelism and orthogonality of structures, while higher-level information involves recognition of scene elements and architectural scenes. In motion tracking, parametric models of human motion and/or 3D avatars have been used to enable robust motion recovery and to parse human motion at a higher level of description. As advanced statistical inference methods that are able to effectively deal with such constraints become more and more pervasive in the field, the use of higher-level knowledge can only be expected to gain in importance.

This workshop is aimed at bringing together computer vision researchers who are pursuing this area of research in the hopes that it will facilitate discussions and debates that will help to identify the opportunities and challenges in applying prior knowledge to the still unsolved problem of 3D structure recovery from images as well as the recovery of complex motion from video imagery.

This proceedings contains 10 reviewed papers that were presented at this workshop. The range of work described in these papers attests to the potential of using knowledge-based constraints in computer vision.

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