

Call for Papers

Spatial Cognition and Computation Journal

Special Issue on the Perception, Cognition and Reasoning about Shadows

Guest editors:

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We invite papers to be submitted to a special issue of the Spatial Cognition and Computation Journal on the *Perception, Cognition, Computation and Reasoning about Shadows*.

Recently, psychologists have turned their attention to the study of cast shadows and demonstrated that the human perceptual system values information from shadows very highly in the perception of spatial qualities, in synergy or in conflict with other cues. At the same time computer vision systems, in general, treat cast shadows almost exclusively not as signal but as noise. The purpose of this special issue is to bring together contributions from the various disciplines involved in investigating the problem of understanding the perception of shadows (both in biological and in artificial systems) and experts and practitioners that try to bridge the gap between the perception and the use of the knowledge content in shadows in robotics and computer vision systems.

In this issue we intend to discuss the ways in which the perception of shadows operates, considering evidence from computer graphics, computer vision, artificial intelligence, robotics, psychology, art history, philosophy and neuroscience. We shall address the issue of how the environmental information used by the human perceptual system can be incorporated into computer vision methods for shadow detection. Specific issues such as the recognition of shadows ("what makes a dark patch in a scene shadow-like? ") and the human ability to make complicated judgments about 3D location in space based upon shadows are examples of the topics to be addressed.

This issue has the goal of synchronizing the work of the different research and application communities involved in exploiting the information content in shadows. As such, papers should be

accessible to an interdisciplinary audience, and in particular, as part of the introduction, authors should make clear the contribution of the paper in an accessible way.

Topics of interest for the special issue include (but are not limited to):

- Representation and reasoning about shadows in AI and robotics;
- Machine and animal perception of shadows;
- Computer vision methods for shadow identification and for solving the shadow correspondence problem;
- Rendering shadows in computer graphics;
- The cognition of shadows in the history of artificial;
- Conceptual representations of shadows;
- Spatiotemporal aspects of shadow cognition, perception and representation.

Important dates

- Expression of interest, including a 120 word abstract, should be sent to shadows.scc@gmail.com by April 30, 2016
- Submission of full papers: June 30, 2016
- Completion of review process (estimate): January 30, 2017

Submission Instructions

Submitted papers will be refereed by the usual standards of Spatial Cognition and Computation.

Instruction for submitting a manuscript can be found on the journal's website. Submissions will be handled through the submission system, Manuscript Central

(<http://mc.manuscriptcentral.com/hspcc>), and should not exceed 6000 words.

All papers should lie within the scope of the journal (as defined on the journal's web site). In particular, papers must address issues which are essentially spatial in nature.