

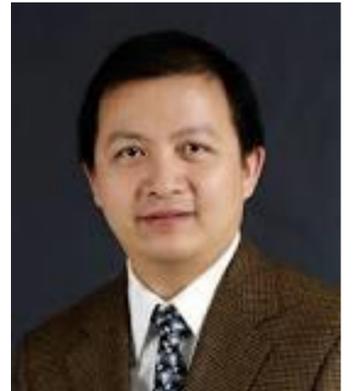


Modeling Objects, Concepts, Aesthetics, Emotions, and Artistic Styles using Visual Information

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Abstract

This talk will provide an overview of the recent research activities of my research group at Penn State. Automated annotation of digital pictures has been a highly challenging open research problem. In our earlier work, by advancing statistical modeling and optimization techniques, we showed that computers can be trained with a large number of semantic concepts using example pictures. Beyond semantic annotation, we have been working on modeling visual aesthetics and emotions. Computer systems have been developed to enhance the aesthetic quality of the photographs captured by the mobile consumers and to predict the evoked emotions based on visual characteristics. Finally, the talk will discuss our computer-based approach for analyzing the brushstrokes styles of Vincent van Gogh.

Bio

James Z. Wang has been on faculty at Penn State since 2000 where he is a Professor and the Chair of the College Faculty Council. Research interests of his group include automatic image tagging, semantics-sensitive image retrieval, image security, biomedical informatics, computational aesthetics, climate informatics, and art image analysis and retrieval. He has been a recipient of an NSF Career award and an endowed PNC Professorship provided by the PNC Foundation. He was a Visiting Professor at the Robotics Institute of Carnegie Mellon University from 2007 to 2008. He has served as the lead guest editor of IEEE Trans. on Pattern Analysis and Machine Intelligence. In 2011 and 2012, he served as a Program Manager in the Office of the National Science Foundation Director. He holds a summa cum laude Bachelor's degree in Mathematics and Computer Science from University of Minnesota and an M.S. in Mathematics, an M.S. in Computer Science, and a Ph.D. from Stanford University.