

Aesthetic Computing and Computational Aesthetics

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Abstract

In this talk, we will introduce the recently emerging interdisciplinary research topics of computational aesthetics and aesthetic computing, and discuss their difference and complementary roles. As a case study, the theories and practices of abstract painting and their existing and potential applications in information visualization will be presented in the context of aesthetic computing. We discuss the three dimensions of painting, i.e. form, color, and texture, various visual cognition principles, and finally aesthetic compositions used in abstract painting. Our objective is to bridge visual art with information visualization, so that the latter could learn from the former in creating more aesthetic visualizations and thus making the viewers visualizing process a pleasant experience. In the context of computational aesthetics, we provide a classification scheme on the complexity of intelligence in generative art with example of generation approaches. Based on Birkhoff's work on aesthetic measure, we review several recent attempts in computational approaches to aesthetic measurement and complexity measurement for art works.

About the speaker:

Kang Zhang is Professor and Director of Visual Computing Lab, Department of Computer Science, and Professor of Arts and Technology, at the University of Texas at Dallas. He is currently a Fulbright Distinguished Chair visiting Charles University. Zhang received his B.Eng. in Computer Engineering from University of Electronic Science and Technology of China in 1982, Ph.D. from the University of Brighton, UK, in 1990, and Executive MBA from the University of Texas at Dallas in 2011. Prior to joining UT-Dallas, he held academic positions in the UK, Australia, and China. Zhang's current research interests include generative art, visual languages, aesthetic computing, and software engineering. He has published 7 books, and over 240 papers in these areas. He is an ACM Distinguished Speaker and on the Editorial Boards of *Journal of Big Data*, *The Visual Computer*, *Journal of Visual Languages and Computing*, *International Journal of Software Engineering and Knowledge Engineering*, and *International Journal of Advanced Intelligence*. His home page is at: utd.edu/~kzhang