

Preface

The Computational Visual Media (CVM) conference series is intended to provide a major international forum for exchanging novel research ideas and significant computational methods that either underpin or apply visual media. The primary goal is to promote cross-disciplinary research to amalgamate aspects of computer graphics, computer vision, machine learning, image and video processing, visualization and geometric computing. The main topics of interest to CVM include classification, composition, retrieval, synthesis, and understanding of visual media (e.g., images, video, 3D geometry).

The Computational Visual Media Conference 2017 (CVM 2017), the 5th international conference in the series, was held April 12~14, 2017, at Nankai University, Tianjin. Following the success of previous CVM conferences, CVM 2017 has attracted broad attention from researchers worldwide. A total of 168 technical papers were submitted and reviewed by an international program committee comprising 80 selected experts and 149 additional reviewers. A total of 27 papers (16% acceptance rate) were accepted for oral presentation.

Among the 27 accepted papers, 9 outstanding papers have been selected for inclusion in this special section. These papers cover a wide spectrum of topics including image colorization, image enhancement, motion segmentation, video captioning, illustration estimation, video abnormality detection, and metric learning. In addition, we have also included an invited survey paper on human performance capture and animation.

We hope that readers will enjoy this special section. We are grateful to all the paper authors and reviewers for their valuable contribution.

Leading Editor:

Shi-Min Hu, Professor, Department of Computer Science and Technology, Tsinghua University, Beijing
shimin@tsinghua.edu.cn

Guest Editors:

Niloy J. Mitra, Professor, Department of Computer Science, University College London, London
N.Mitra@cs.ucl.ac.uk

Yizhou Yu, Professor, Department of Computer Science, The University of Hong Kong, Hong Kong
yizhouy@acm.org



Shi-Min Hu received his Ph.D. degree in computer science from Zhejiang University, Hangzhou, in 1996. He is currently a professor in the Department of Computer Science and Technology, Tsinghua University, Beijing. His research interests include digital geometry processing, video processing, rendering, computer animation, and computer-aided geometric design. He has published more than 100 papers in journals and refereed conferences. He is the Editor-in-Chief of Computational Visual Media, and on the editorial boards of several journals, including IEEE Transactions on Visualization and Computer Graphics, Computer Aided Design, Computer & Graphics, and Journal of Computer Science and Technology.



Niloy J. Mitra is a professor of geometry processing in the Department of Computer Science, University College London (UCL), London. Niloy received his M.S. and Ph.D. degrees from Stanford University under the guidance of Prof. Leonidas Guibas and Prof. Marc Levoy. Niloy's research primarily focuses on algorithmic issues in shape analysis and geometry processing. He is also interested in applying the analysis findings (e.g., relations, constraints) towards next generation design tools including smart shape synthesis and fabrication-aware functional model design. Niloy received the 2013 ACM SIGGRAPH Significant New Researcher Award and the BCS Roger Needham Award in 2015. He received the ERC Starting Grant on Smart Geometry in 2013. Niloy is associate editors of ACM

Transactions on Graphics, Computer Graphics Forum, and The Visual Computer.



Yizhou Yu is a professor in the Department of Computer Science at the University of Hong Kong, and was a faculty member at University of Illinois, Urbana-Champaign (UIUC) for more than ten years. He received his Ph.D. degree in computer science from University of California, Berkeley. Prof. Yu has made important contributions to visual computing, including computer vision, images and graphics, and VR/AR. He is a recipient of US National Science Foundation CAREER Award and multiple best paper awards. He has more than 100 publications in international conferences and journals. His current research interests include deep learning methods for machine intelligence, computational visual media, geometric computing, intelligent video analytics, and biomedical data analysis. He has been an associate

editor for several journals, including IEEE Transactions on Visualization and Computer Graphics, and IET Computer Vision.