

Preface

Qunsheng Peng

(State Key Laboratory of CAD&CG, Zhejiang University, Hangzhou 310027, China)

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This special issue on computer graphics consists of four papers addressing respectively the fields of image morphing, video processing, document visualization and GPU algorithms.

Image morphing is a classic technique widely used for special effects in entertainment industry. The first paper by Tomohisa Manabe *et al.* proposes a method for generating a sequence of images with smooth change of illumination between two input images under different lighting conditions. It adopts isoluminance curves as a feature primitive. Transformed luminance distributions are generated from the warped isoluminance curves.

In the second paper, Chunxia Xiao *et al.* present a fast gradient domain based framework for video compositing. Rather than the conventional approaches which performs Poisson image editing in the gradient-domain pixel by pixel, the new framework conducts video compositing by incorporating an octree data structure, requesting greatly reduced computational time and memory space.

Discovering concepts from vast amount of text is an important but hard explorative task. The third paper by Qian You *et al.* proposes the iterative visual clustering (IVC), a novel visual text analytical model. IVC has a formal on-line learning model which learns users' preference iteratively. With the engagement of domain knowledge, it can achieve insightful concepts with interesting patterns.

Graphics processing units (GPUs) have a SIMD architecture and have found wide applications in various fields. The last paper by Baoyuan Wang and Yizhou Yu investigates efficient GPU-based data cubing which is an expensive operation well suited for SIMD parallel effective methods. The proposed algorithms can achieve more than one order of magnitude speedup when compared with their sequential counterparts on a single CPU.

Finally, I would like to thank all the authors of the above four papers for their contribution to this special issue and appreciate the excellent work by all the reviewers.

Prof. Qunsheng Peng
Zhejiang University
Hangzhou, China