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EDITORIAL

Editorial

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This issue presents the five best papers from the Brazilian Symposium on Computer Graphics and Image Processing—SIBGRAPI—the most important Brazilian meeting in Computer Graphics, Image Processing, and Computer Vision. SIBGRAPI was held in the city of Campo Grande, MS, Brazil, between October 12th and 15th, 2008. The original version of the five papers were carefully revised and extended in content before being submitted to the Visual Computer Journal. After a new review cycle all five papers were formally accepted to be published.

The first paper, supervised by Luiz Velho from IMPA, Rio de Janeiro, Brazil and Roberto Cesar, Jr. from USP, Sao Paulo, Brazil, presents an automatic system for 3D face reconstruction from 2D color images. Principal Component Analysis is employed to generate two separate orthonormal basis which represent the texture and geometry of a face model separately. The authors show that a 3D facial geometry of a given face image can be produced by projecting the face image texture onto the geometry space built from a training data set.

The paper on Shape-Sensitive MLS Deformation, co-authored by researches from COPPE/PESC, Rio de Janeiro, Brazil, describes a skeleton-based methodology for deforming meshes. Given a mesh model and its associated skeleton, a minimization problem is solved for each skeleton joint so as to deform the skeleton properly. The model deformation is accomplished by projecting the skeleton transformations back into the associate mesh.

Visual Analysis of Image Collections, co-authored by a research team from ICMC-USP, Brazil, introduces the PEx-Image, an information visualization methodology for analysis and exploration of image collections. The authors show how dimensionality reduction techniques can be employed to support unsupervised classifications of image data sets, offering a common visual representation for data expressed in different modalities.

3D Virtual Mosaics, co-authored by Passos and Walter, both from UFPE, Pernambuco, Brazil, presents a Voronoi-based scheme to simulate 3D mosaics on surfaces. The work describes how arbitrary shaped mosaic-like effects can be obtained by combining texture maps with user defined geometrical constraints.

Finally, the paper supervised by Dorgival Guedes and co-authored by researches from UFMG, Belo Horizonte, Brazil, presents a parallel architecture based on a cluster of GPUs to render multiple views interactively. The authors propose to combine sampler nodes with image-based renderers toward minimizing the overhead when both more users and PCs are added to the system. Experimental results show that the proposed framework matched the theoretical speedup closely.

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