6th International Symposium on Visual Computing (ISVC'10)

Nov 29 - Dec 1, 2010, Las Vegas, Nevada, USA

Contents

Final Program
6th International Symposium on Visual Computing (ISVC'10)
Nov 29th - Dec 1st, 2010, Las Vegas, Nevada, USA

Symposium Overview

	Monday 29th	Tuesday 30th	Wednesday 1st
07:00 am – 08:30 am	*Breakfast* (Ballroom 1)		
08:30 am – 9:30 am	**Keynote** *(Ballroom 4-5)*		
9:40 am – 10:40 am	**Parallel Sessions** (Ballroom 2, 3, 4-5, Platinum Room)		
10:40 am – 11:10 am	*Coffee Break*		
11:10 am – 12:10 am	**Parallel Sessions** (Ballroom 2, 3, 4-5, Platinum Room)		
12:10 pm – 1:30 pm	*Lunch Break* (on your own)		
1:30 pm – 2:30 pm	**Keynote** (Ballroom 4-5)	**Poster Session** * (Ballroom 4-5)	**Keynote** (Ballroom 4-5)
2:40 pm – 3:40 pm	**Parallel Sessions** (Ballroom 2, 3, 4-5, Platinum Room)		
3:40 pm – 4:10 pm	*Coffee Break*		
4:10 pm – 6:00 pm	**Parallel Sessions** (Ballroom 2, 3, 4-5, Platinum Room)		

Registration Desk hours: Sunday Nov 28th: 5:30pm -9:30pm
Monday, Nov 29th – Wednesday, Dec 1st: 7:30am – 5:30pm
Banquet Dinner: Tuesday, Nov 30th: 7:00pm – 9:30pm (East Ballrooms 5,6,7)

*The poster session runs from 1:30pm to 3:30pm.

Monday, November 29th

7:00-8:30	*Breakfast* (Ballroom 1)		
8:30-9:30	*Keynote:* ***Marc Pollefeys*****, ETH Zurich, Switzerland** (Ballroom 4-5)		
	Parallel Sessions		
9:40-12:10	**ST: Computational Bioimaging I** Chair: Valentin Brimkov ((Ballrooms 4-5)		**Computer Graphics I** Chair: Jiri Žára (Ballroom 2)
	9:40	Ontology-driven Image Analysis for Histopathological Images *Ahlem Othmani, Carole Meziat, and Nicolas Lomenie*	Semi-Uniform, 2-Different Tessellation of Triangular Parametric Surfaces *Ashish Amresh, Christoph Funfzig*
	10:00	Attribute-filtering and knowledge extraction for vessel segmentation *Benoýt Caldairou, Nicolas Passat, Benoýt Naege*	Fast and Reliable Decimation of Polygonal Models based on Volume and Normal Field *Muhammad Hussain*
	10:20	A Human Inspired Local Ratio-Based Algorithm for Edge Detection in Fluorescent Cell Images *Joe Chalfoun, Alden A. Dima, Adele P. Peskin, John T. Elliott, and James J. Filliben*	Lattice-Boltzmann Water Waves *Robert Geist, Christopher Corsi, Jerry Tessendorf, James Westall*
10:40-11:10	*Coffee Break*		
	11:10	A non-rigid multimodal image registration method based on particle filter and optical flow *Edgar Arce-Santana, Daniel U. Campos-Delgado, and Alfonso Alba*	A Texture-based Approach for Hatching Color Photographs *Heekyung Yang, Yunmi Kwon, and Kyungha Min*
	11:30	Stitching of Microscopic Images for Quantifying Neuronal Growth and Spine Plasticity *SooMin Song, Jeany Son, Myoung-Hee Kim*	Camera Pose Estimation Based on Angle Constraints *Fei Wang, Caigui Jiang, Nanning Zheng, Yu Guo*
	11:50		Feature-Preserving 3D Thumbnail Creation with Voxel-based Two-Phase Decomposition *Pei-Ying Chiang, May-Chen Kuo, and C.-C. Jay Kuo*
9:40-12:10	**ST: Behavior Detection and Modeling** Chair: Mircea Nicolescu (Ballroom 3)		**ST: Low-Level Color Image Processing** Chair: Emre Celebi (Platinum Room)
	9:40	Learning Scene Entries and Exits using Coherent Motion Regions *Matthew Nedrich and James W. Davis*	On Contrast-Preserving Visualisation of Multispectral Datasets *Valeriy Sokolov, Dmitry Nikolaev, Simon Karpenko, and Gerald Schaefer*
	10:00	Adding Facial Actions into 3D Model Search to Analyse Behaviour in an Unconstrained Environment *Angela Caunce, Chris Taylor, Tim Cootes*	Color Gamut Extension by Projector-Camera System *Takahiko Horiuchi, Makoto Uno, Shoji Tominaga*
	10:20	Aggregating Low-Level Features for Human Action Recognition *Kyle Parrigan and Richard Souvenir*	Shading Attenuation in Human Skin Color Images *Pablo G. Cavalcanti, Jacob Scharcanski and Carlos B. O. Lopes*
10:40-11:10	*Coffee Break*		
	11:10	ImageIncorporating Social Entropy for Crowd Behavior Detection Using SVM *Saira Saleem Pathan, Ayoub Al-Hamadi, and Bernd Michaelis*	Color Constancy Algorithms for Object and Face Recognition *Christopher Kanan, Arturo Flores, and Garrison W. Cottrell*
	11:30	Introducing a Statistical Behavior Model into Camera-Based Fall Detection *Andreas Zweng, Sebastian Zambanini and Martin Kampel*	Chromatic Sensitivity of Illumination Change Compensation Techniques *M. Ryan Bales, Dana Forsthoefel, D. Scott Wills, and Linda M. Wills*
	11:50		Study of Image Color Stealing in Log-Polar Space *Hiroaki Kotera*
12:10-1:30	*Lunch* (on your own)		

1:30-2:30	*Keynote:* ***Tobias Hollerer***, **University of California at Santa Barbara, USA** (Ballrooms 4-5)		
	Parallel Sessions		
2:40-5:30	**Feature Extraction and Matching** Chair: Ronald Chug (Ballrooms 4-5)		**Visualization I** Chairs: Rene Rosenbaum (Ballroom 2)
	2:40	How to Overcome Perceptual Aliasing in ASIFT? *Nicolas Noury, Frederic Sur, Marie-Odile Berger*	Fractal Map: Fractal-based 2D Expansion Method for Multi-scale High-dimensional Data Visualization *Takanori Fujiwara, Ryo Matsushit, Masaki Iwamaru, Manabu Tange, Satoshi Someya and Koji Okamoto*
	3:00	Speeding up HOG and LBP features for Pedestrian Detection by Multiresolution Techniques *Philip Geismann and Alois Knoll*	Visual Network Analysis of Dynamic Metabolic Pathways *Markus Rohrschneider, Alexander Ullrich, Andreas Kerren, Peter F. Stadler, and Gerik Scheuermann*
	3:20	Utilizing Invariant Descriptors for Finger Spelling American Sign Language using SVM *Omer Rashid, Ayoub Al-Hamadi, Bernd Michaelis*	Interpolating 3D Diffusion Tensors in 2D Planar Domain by Locating Degenerate Lines *Chongke Bi, Shigeo Takahashi, and Issei Fujishiro*
3:40-4:10	*Coffee Break*		
	4:10	Bivariate Feature Localization for SIFT Assuming a Gaussian Feature Shape *Kai Cordes, Oliver Muller, Bodo Rosenhahn, and Jorn Ostermann*	Indented Pixel Tree Plots *Michael Burch, Michael Raschke, Daniel Weiskopf*
	4:30	Linear Dimensionality Reduction through Eigenvector Selection for Object Recognition *F. Dornaika and A. Assoum*	Visualizing Multivariate Hierarchic Data using Enhanced Radial Space-Filling Layout *Ming Jia, Ling Li, Erin Boggess, Eve Syrkin Wurtele, Julie A. Dickerson*
	4:50	Symmetry Enhanced Adaboost *Florian Baumann, Katharina Ernst, Arne Ehlers, Bodo Rosenhahn*	An Efficient Method for the Visualization of Spectral Images Based on a Perception-Oriented Spectrum Segmentation *Steven Le Moan, Alamin Mansouri, Yvon Voisin, Jon Y. Hardeberg*
	5:10	Object Category Classification Using Occluding Contours *Jin Sun, Christopher Thorpe, Nianhua Xie, Jingyi Yu, and Haibin Ling*	A New Marching Cubes Algorithm for Interactive Level Set with Application to MR Image Segmentation *David Feltell and Li Bai*
2:40-5:30	**Motion and Tracking** Chair: Alireza Tavakkoli (Ballroom 3)		**ST: Unconstrained Biometrics: Advances and Trends** Chair: Alexei Sourin (Platinum Room)
	2:40	Attention-based Target Localization using Multiple Instance Learning *Karthik Sankaranarayanan and James W. Davis*	Acquisition Scenario Analysis for Face Recognition at a Distance *P. Tomea, J. Fierreza, M.C. Fairhurstb and J. Ortega-Garcia*
	3:00	Introducing Fuzzy Spatial Constraints in a Ranked Partitioned Sampling for Multi-Object Tracking *Nicolas Widynski Severine Dubuisson and Isabelle Bloch*	Enhancing Iris Matching Using Levenshtein Distance with Alignment Constraints *Andreas Uhl and Peter Wild*
	3:20	Object tracking and segmentation in a closed loop *Konstantinos E. Papoutsakis and Antonis A. Argyros*	A Mobile-oriented Hand Segmentation algorithm based on Fuzzy Multiscale Aggregation *Ángel García-Casarrubios Muñoz, Carmen Sánchez Ávila, Alberto de Santos Sierra, Javier Guerra Casanova*
3:40-4:10	*Coffee Break*		
	4:10	Optical flow estimation with prior models obtained from phase correlation *Alfonso Alba, Edgar Arce-Santana, and Mariano Rivera*	Analysis of Time Domain Information for Footstep Recognition *R. Vera-Rodriguez, J.S.D. Mason, J. Fierrez and J. Ortega-Garcia*
	4:30	Conservative Motion Estimation from Multi-Image Sequences *Wei Chen*	Shaped Wavelets for Curvilinear Structures for Ear Biometrics *Mina I. S. Ibrahim, Mark S. Nixon, and Sasan Mahmoodi*
	4:50	Gradient-based Modi¯ed Census Transform for Optical Flow *Philipp Puxbaum and Kristian Ambrosch*	Face Recognition using Sparse Representations and Manifold Learning *Grigorios Tsagkatakis, Andreas Savakis*
	5:10	Depth Assisted Occlusion Handling in Video Object Tracking *Yingdong Ma, Qian Chen*	Face Recognition in Videos Using Adaptive Graph Appearance Models *Gayathri Mahalingam and Chandra Kambhamettu*

Tuesday, November 30th

7:00-8:30	*Breakfast* (Ballroom 1)		
8:30-9:30	*Keynote:* **John Stasko**, **Georgia Institute of technology, USA** (Ballrooms 4-5)		
	Parallel Sessions		
9:40-12:10	**ST: Computational Bioimaging II** Chairs: Christos Constantinou (Ballrooms 4-5)		**Computer Graphics II** Chair: Muhammad Hussain (Ballroom 2)
	9:40	A Spatial-temporal Frequency Approach to Estimate Cardiac Motion *Marco Gutierrez, Marina Rebelo, Wietske Meyering, and Raúl Feijóo*	Reconstruction of Spectra Using Empirical Basis Functions *Jakob Barz, Tina Hansen, and Stefan Muller*
	10:00	Mitosis extraction in breast-cancer histopathological whole slide images *Vincent Roullier, Olivier Lezoray, Vinh-Thong Ta and Abderrahim Elmoataz*	Experimental Study on Approximation Algorithms for Guarding Sets of Line Segments *Valentin E. Brimkov, Andrew Leach, Michael Mastroianni, and Jimmy Wu*
	10:20	Predicting Segmentation Accuracy for Biological Cell Images *Adele P. Peskin, Alden A. Dima, Joe Chalfoun, and John T. Elliott*	A Spectral Approach to Nonlocal Mesh Editing *Tim McGraw, Takamitsu Kawai*
10:40-11:10	*Coffee Break*		
	11:10	Multiscale Analysis of Volumetric Motion Field using General Order Prior *Koji Kashu, Atsushi Imiya, and Tomoya Sakai*	A Local-Frame Based Method for Vector Field Construction on Raw Point Cloud *Xufang Pang, Zhan Song, Xi Chen*
	11:30	A multi-relational learning approach for knowledge extraction in in vitro fertilization domain *Teresa M. A. Basile, Floriana Esposito, Laura Caponetti*	Preprocessed Global Visibility for Real-Time Rendering on Low-End Hardware *Benjamin Eikel, Claudius Jahn and Matthias Fischer*
	11:50		
9:40-12:10	**ST: 3D Mapping, Modeling and Surface Reconstruction** Chair: Ara Nefian (Ballroom 3)		**Virtual Reality I** Chair: Roger Crawfis (Platinum Room)
	9:40	Markov random field-based clustering for the integration of multi-view range images *Ran Song, Yonghuai Liu, Ralph R. Martin, and Paul L. Rosin*	Computer-Generated Tie-Dyeing using a 3D Diffusion Graph *Yuki Morimoto and Kenji Ono*
	10:00	Robust Wide Baseline Scene Alignment based on 3D Viewpoint Normalization *Michael Ying Yanga, Yanpeng Caob, Wolfgang Forstnera, John McDonald*	VR Menus: Investigation of Distance, Size, Auto-scale, and Ray Casting vs. Pointer-attached-to-menu *Kaushik Das and Christoph W. Borst*
	10:20	Modified region growing for stereo of slant and textureless surfaces *Rohith MV, Gowri Somanath, Chandra Kambhamettu, Cathleen Geiger, and David Finnegan*	Contact Geometry and Visual Factors for Vibrotactile-Grid Location Cues *Nicholas G. Lipari and Christoph W. Borst*
10:40-11:10	*Coffee Break*		
	11:10	Synthetic Shape Reconstruction Combined with the FT-Based Method in Photometric Stereo *Osamu Ikeda*	Computer-Assisted Creation of 3D Models of Freeway Interchanges *Soon Tee Teoh*
	11:30	Lunar Terrain and Albedo Reconstruction of the Apollo 15 Zone *Ara V. Nefian, Taemin Kim, Zachary Moratto, Ross Beyer and Terry Fong*	Automatic learning of gesture recognition model using SOM and SVM *Masaki Oshita and Takefumi Matsunaga*
	11:50	Super-Resolution Mosaicking of Unmanned Aircraft System (UAS) Surveillance Video using Levenberg Marquardt (LM) Algorithm *Aldo Camargo, Richard R. Schultz, Qiang He*	
12:10-1:30	*Lunch* (on your own)		

1:30-3:30	**Poster Session** (Ballrooms 4-5 & Hallway)		
	Parallel Sessions		
3:30-6:00	**Calibration, Pose Estimation and Reconstruction** Chair: Xenophon Zabulis (Ballrooms 4-5)		**Segmentation** Chair: Andreas Savakis (Ballroom 2)
	3:30	Multiple Camera Self-Calibration and 3D Reconstruction Using Pedestrians *Michael Hodlmoser and Martin Kampel*	Region and Edge-adaptive Sampling and Boundary Completion for Segmentation *Scott E. Dillard, Lakshman Prasad, and Jacopo Grazzini*
	3:50	Robust Radial Distortion from a Single Image *Faisal Bukhari and Matthew N. Dailey*	Universal Seed Skin Segmentation *Rehanullah Khan, Allan Hanbury and Julian Stottinger*
4:10-4:40	*Coffee Break*		
	4:40	Projective reconstruction of general 3D planar curves from uncalibrated cameras *X.B. Zhang, A. W. K. Tang, and Y. S. Hung*	A sharp concentration-based adaptive segmentation algorithm *Christophe Fiorio and Andre Mas*
	5:00	A Novel Photometric Method for Real-Time 3D Reconstruction of Fingerprint *Wuyuan Xie, Zhan Song, Xiaoting Zhang*	Segmentation for Hyperspectral Images with Priors *Jian Ye, Todd Wittman, Xavier Bresson, Stanley Osher*
	5:20	3D Camera Pose Estimation using Line Correspondences and 1D Homographies *Irene Reisner-Kollmann, Andreas Reichinger, and Werner Purgathofer*	The Curve Filter Transform - a Robust Method for Curve Enhancement *Kristian Sandberg*
	5:40	Near-Optimal Selection of Views and Surface Regions for ICP Pose Estimation *L. H. Mark, G. Okouneva, P. Saint-Cyr, D. Ignakov, C. English*	Split Bregman Method for Minimization of Region-Scalable Fitting Energy for Image Segmentation *Yunyun Yanga, Chunming Lic, Chiu-Yen Kaoa, and Stanley Osher*
3:30-6:00	**Stereo** Chair: Taemin Kim (Ballroom 3)		**Virtual Reality II** Chair: Christoph Borst (Platinum Room)
	3:30	A Correlation-based Approach for Real-Time Stereo Matching *Raj Kumar Gupta and Siu-Yeung Cho*	Adaptive Neighbor Pairing for Smoothed Particle Hydrodynamics *Brandon Pelfrey and Donald House*
	3:50	Photometric Stereo under Low Frequency Environment Illumination *Rui Huang and William A. P. Smith*	System Structures for Efficient Rendering in Virtual Worlds and Virtual Testbeds *Jurgen Rossmann, Nico Hempe*
4:10-4:40	*Coffee Break*		
	4:40	Simultaneous Vanishing Point Detection and Camera Calibration from Single Images *Bo Li, Kun Peng, Xianghua Ying, Hongbin Zha*	Prismfields: A Framework for Interactive Modeling of Three Dimensional Caves *Matt Boggus and Roger Crawfis*
	5:00	Inferring Planar Patch Equations from Sparse View Stereo Images *Rimon Elias*	Efficient Marker Matching Using Pair-wise Constraints in Physical Therapy *Gregory Johnson, Nianhua Xie, Jill Slaboda, Y. Justin Shi, Emily Keshner, and Haibin Ling*
	5:20	Single camera stereo system using prism and mirrors *Gowri Somanath, Rohith MV, and Chandra Kambhamettu*	Learning and Prediction of Soft Object Deformation using Visual Analysis of Robot Interactions *Ana-Maria Cretu, Pierre Payeur and Emil M. Petriu*
	5:40	A Region-Based Randomized Voting Scheme for Stereo Matching *Guillaume Gales, Alain Crouzil and Sylvie Chambon*	
7:00-9:30	*Banquet Dinner* (East Ballrooms 5,6,7) *Keynote:* **Steve Seitz, University of Washington, USA**		

Wednesday, December 1st

7:00-8:30	*Breakfast* (Ballroom 1)		
8:30-9:30	*Keynote:* **Ioannis Kakadiaris**, **University of Houston, USA** (Ballrooms 4-5)		
	Parallel Sessions		
9:40-12:10	**Registration** Chair: Christophe Fiorio (Ballrooms 4-5)		**Medical Imaging** Chair: Fabien Scalzo (Ballroom 2)
	9:40	A Novel Consistency Regularizer for Meshless Non-rigid Image Registration *Wei Liu and Eraldo Ribeiro*	Tissue Fate Prediction in Acute Ischemic Stroke using Cuboid Models *Fabien Scalzo, Qing Hao, Jeffrey R. Alger, Xiao Hu, David S. Liebeskind*
	10:00	Robust Rigid Shape Registration Method Using a Level Set Formulation *Muayed S. Al-Huseiny, Sasan Mahmoodi, and Mark S. Nixon*	3D vector row guided segmentation of airway wall in MSCT *Margarete Ortner, Catalin Fetita, Pierre-Yves Brillet, Francoise Preteux, and Philippe Grenier*
	10:20	A Meshless Method for Variational Nonrigid 2-D Shape Registration *Wei Liu and Eraldo Ribeiro*	Graph-Based Segmentation of Lymph Nodes in CT Data *Yao Wang and Reinhard Beichel*
10:40-11:10	*Coffee Break*		
	11:10	A New Simple Method to Stitch Images with Lens Distortion *Myung-Ho Ju and Hang-Bong Kang*	Electron Microscopy Image Segmentation with Graph Cuts Utilizing Estimated Symmetric Three-Dimensional Shape Prior *Huei-Fang Yang and Yoonsuck Choe*
	11:30	Robust Mosaicking of Stereo Digital Elevation Models from the Ames Stereo Pipeline *Taemin Kim, Zachary Moratto and Ara V. Nefian*	Retinal Vessel Extraction with the Image Ray Transform *Alastair H. Cummings and Mark S. Nixon*
	11:50		Automatic Liver Segmentation from CT scans using Multi-Layer Segmentation and Principal Component Analysis *Hossein Badakhshannoory, and Parvaneh Saeedi*
9:40-12:10	**ST: Low Cost Virtual Reality: Expanding Horizons** Chair: Bill Sherman (Ballroom 3)		**ST: Best Practices in Teaching Visual Computing** Chair: Alexandra Albu (Platinum Room)
	9:40	Low Cost VR Meets Low Cost Multi-Touch *Dane Coffey, Fedor Korsakov, and Daniel F. Keefe*	Multi-Institutional Collaboration in Delivery of Team-Project-Based Computer Graphics Studio Courses *Tim McLaughlin, B. Adan Pena, Todd A. Fechter, Anton Markus Pasing, Judith Reitz, and Joseph A. Vidal*
	10:00	IQ-Station: A Low Cost Portable Immersive Environment *William R. Sherman, Patrick O'Leary, Eric T. Whiting, Shane Grover, and Eric A. Wernert*	A Workflow Based Process Visual Analyzer (ProVisZer) for Teaching and Learning *Nathaniel Rossol, Irene Cheng and Mrinal Mandal*
	10:20	A Fiducial-Based Tangible User Interface for White Matter Tractography *Steven R. Gomez, Radu Jianu, and David H. Laidlaw*	Teaching geometric modeling algorithms and data structures through laser scanner acquisition pipeline *Gueorguieva S., Synave R. and Couture-Veschambre, Ch.*
10:40-11:10	*Coffee Break*		
	11:10	Immersive Molecular Visualization and Interactive Modeling with Commodity Hardware *John E. Stone, Axel Kohlmeyer, Kirby L. Vandivort, and Klaus Schulten*	Creating Passion for Augmented Reality Applications - a Teaching Concept for a Lab Course *Christian Waechter, Eva Artinger, Markus Duschl, and Gudrun Klinker*
	11:30		
	11:50		
12:10-1:30	*Lunch* (on your own)		

1:30-2:30	*Keynote:* **Aditi Majumder, University of California, Irvine, USA** (Ballrooms 4-5)		
	Parallel Sessions		
2:40-5:30	**Applications** Chair: Yoshinori Kuno (Ballrooms 4-5)		**Visualization II** Chairs: Tim McGraw (Ballroom 2)
	2:40	Object Material Classification by Surface Reflection Analysis with a Time-of-Flight Range Sensor *Md. Abdul Mannan, Dipankar Das, Yoshinori Kobayashi, and Yoshinori Kuno*	Distance Field Illumination: a Rendering Method to Aid in Navigation of Virtual Environments *Matt Boggus and Roger Crawfis*
	3:00	Retrieving Images of Similar Geometrical Configuration *Xiaolong Zhang and Baoxin Li*	Indirect Shader Domain Rendering *Daqing Xue and Roger Crawfis*
	3:20	An Analysis-by-Synthesis Approach to Rope Condition Monitoring *Esther-Sabrina Wacker and Joachim Denzler*	Visual Exploration of Stream Pattern Changes Using a Data-driven Framework *Zaixian Xie, Matthew O. Ward, and Elke A. Rundensteiner*
3:40-4:10	*Coffee Break*		
	4:10	Fast Parallel Model Estimation on the Cell Broadband Engine *Ali Khalili, Amir Fijany, Fouzhan Hosseini, Saeed Safari, Jean-Guy Fontaine*	RibbonView: Interactive Context-Preserving Cutaways of Anatomical Surface Meshes *T. McInerney and P. Crawford*
	4:30	Organizing and Browsing Image Search Results based on Conceptual and Visual Similarities *Grant Strong, Enamul Hoque, Minglun Gong, and Orland Hoeber*	Interactive Visualisation of Time-based Vital Signs *Rhys Tague, Anthony Maeder and Quang Vinh Nguyen*
	4:50	Evaluation of a Difference of Gaussians based Image Difference Metric in Relation to Perceived Compression Artifacts *Gabriele Simone, Valentina Caracciolo, Marius Pedersen and Faouzi Alaya Cheikh*	Using R-trees for Interactive Visualization of Large Multidimensional Datasets *Alfredo Gimenez, Rene Rosenbaum, Mario Hlawitschka, and Bernd Hamann*
	5:10		Combining Automated and Interactive Visual Analysis of Biomechanical Motion Data *Scott Spurlock, Remco Chang, Xiaoyu Wang, George Arceneaux IV, Daniel F. Keefe, and Richard Souvenir*
2:40-5:30	**Video Analysis and Event Recognition** Chair: Vijayan Asari (Ballroom 3)		**No Session** (Platinum Room)
	2:40	Human Activity Recognition: A Scheme Using Multiple Cues *Samy Sadeky, Ayoub Al-Hamadiy, Bernd Michaelisy, Usama Sayed*	
	3:00	A platform for monitoring aspects of human presence in real-time *X. Zabulis, T. Sarmis, K. Tzevanidis, P. Koutlemanis, D. Grammenos, and A. A. Argyros*	
	3:20	Egocentric Visual Event Classification with Location-Based Priors *Sudeep Sundaram and Walterio W. Mayol-Cuevas*	
3:40-4:10	*Coffee Break*		
	4:10	View Invariant Activity Recognition with Manifold Learning *Sherif Azary and Andreas Savakis*	
	4:30	Arm-Hand behaviours modelling: from attention to imitation *Sean R. F. Fanello, Ilaria Gori, and Fiora Pirri*	
	4:50	Hand Detection and Gesture Recognition Exploit Motion Times Image in Complicate Scenarios *Zhan Song, Hanxuan Yang, Yanguo Zhao, Feng Zheng*	
	5:10	Face Verification using Indirect Neighbourhood Components Analysis *Hieu V. Nguyen and Li Bai*	

Poster Session (Ballrooms 4-5 and Hallway)

Tuesday, November 30th (1:30pm-3:30pm)

Efficient Algorithms for Image and High Dimensional Data Processing using Eikonal Equation on Graphs *Xavier Desquesnes, Abderrahim Elmoataz, Olivier Lezoray and Vinh-Thong Ta*
3D DCT Based Compression Method for Integral Images *Ju-Il Jeon and Hyun-Soo Kang*
Plant Texture Classiffication Using Gabor Co-Occurrences *James S. Cope, Paolo Remagnino, Sarah Barman, and Paul Wilkin*
A Compressive Sensing Algorithm for Many-Core Architectures *A. Borghi, J. Darbon, S. Peyronnet, T.F. Chan, and S. Osher*
An Incremental PCA-HOG Descriptor for Robust Visual Hand Tracking *Hanxuan Yang, Zhan Song, Runen Chen*
Probabilistic Learning of Visual Object Composition from Attended Segments *Masayasu Atsumi*
Propagating Uncertainty in Petri Nets for Activity Recognition *Gal Lavee, Michael Rudzsky, and Ehud Rivlin*
Mixture of Gaussians Exploiting Histograms of Oriented Gradients for Background Subtraction *Tomas Fabian*
Human Pose Recognition using Chamfer Distance in Reduced Background Edge for Human-Robot Interaction *Anjin Park and Keechul Jung*
Modeling Clinical Tumors to Create Reference Data for Tumor Volume Measurement *Adele P. Peskin and Alden A. Dima*
Spectral Image Decolorization *Ye Zhao and Zakiya Tamimi*
Lunar Image Classification for Terrain Detection *Heng-Tze Cheng, Feng-Tso Sun, Senaka Buthpitiya, Ying Zhang, Ara V. Nefian*
Surface Modeling of the Corpus Callosum from MRI Scans *Ahmed Farag, Shireen Elhabian, Mostafa Abdelrahman, James Graham, Aly Farag*
Track detection for autonomous trains *Michael Gschwandtner, Wolfgang Pree, and Andreas Uhl*
Local Descriptors for Document Layout Analysis *Angelika Garz, Markus Diem and Robert Sablatnig*
CT Image Segmentation using Structural Analysis *Hiroyuki HISHIDA, Takashi MICHIKAWA, Yutaka OHTAKE, Hiromasa SUZUKI, and Satoshi OOTA*
Phase Space for Face Pose Estimation *Jacob Foytik, Vijayan K. Asari, R. Cortland Tompkins, and Menatoallah Youssef*
Contour Based Shape Retrieval *Levente Kovacs*
Illumination Normalization for Robust Face Recognition Using DiscreteWavelet Transform *Amnart Petpon and Sanun Srisuk*
Feature-Based Lung Nodule Classification *Amal Farag, Asem Ali, James Graham, Shireen Elhabian, Aly Farag and Robert Falk*

Poster Session (cont'd)

Tuesday, November 30th (1:30pm – 3:30pm)

Multiple-Object Tracking in Cluttered and Crowded Public Spaces *Rhys Martin and Ognjen Arandjelovic*
Compliant interframe coding for Motion-JPEG2000 *René Rosenbaum and Heidrun Schumann*
EVP-Based Multiple-View Triangulation *G. Chesi and Y.S. Hung*
An Improved Shape Matching Algorithm for Deformable Objects Using a Global Image Feature *Jibum Kim and Suzanne M. Shontz*
Multi-Scale Topo-Morphometric Opening of Arteries and Veins: An Evaluative Study via Pulmonary CT Imaging *Zhiyun Gao, Colin Holtze, Randall Grout, Milan Sonka, Eric Hoffman Punam K. Saha*
Video event detection as matching of spatiotemporal projection *Dong-Jun Park and David Eichmann*
PixelLaser: Computing range from monocular texture *N. Lesperance, M. Leece, S. Matsumoto, M. Korbel, K. Lei, and Z. Dodds*
A Spatio-Spectral Algorithm for Robust and Scalable Object Tracking in Videos *Alireza Tavakkoli , Mircea Nicolescu, George Bebis*
Driving Fatigue Detection Using Active Shape Models *Hernan Garcia, Augusto Salazar, Damian Alvarez and Alvaro Orozco*
Outlier Removal in Stereo Reconstruction of Orbital Images *Marvin Smith and Ara Nefian*
Random Sampling Nonlinear Optimization for Camera Self-Calibration with Modeling of Intrinsic Parameter Space *Houman Rastgar, Eric Dubois and Liang Zhang*
Facial Fraud Discrimination using Detection and Classification *Inho Choi and Daijin Kim*
Segmentation of Abdominal Organs incorporating Prior Knowledge in Small Animal CT *SooMin Song, Myoung-Hee Kim*
Method of interest points characterization based C-HOG local descriptor *Manuel Grand-brochier, Christophe Tilmant and Michel Dhome*
Stereo-Based Object Segmentation Combining Spatio-Temporal Information *Yingdong Ma, Qian Chen*
Fast Motion Estimation Based on Search Range Adjustment Using Neighboring MVDs *Hyun-Soo Kang and Jae-Hyeung Park*
Towards Computational Understanding of Skill Levels in Simulation-based Surgical Training via Automatic Video Analysis *Qiang Zhang, Baoxin Li*
Biomedical Image Retrieval in a Fuzzy Feature Space with A±ne Region Detection and Vector Quantization of a Scale-Invariant Descriptor *Md Mahmudur Rahman, Sameer K. Antani, and George R. Thoma*
Model Distribution Dependant Complexity Estimation on Textures *Agustin Mailingyz, Tomas Crivelliy, Bruno Cernuschi-Friasy*
Integrating Multiple Uncalibrated Views for Human 3D Pose Estimation *Zibin Wang and Ronald Chung*

Poster Session (cont'd)

Tuesday, November 30th (1:30pm – 3:30pm)

A novel histogram-based feature representation and its application in Sport Players Classification *Paolo Spagnolo, Pier Luigi Mazzeo, Marco Leo, and Tiziana D'Orazio*
Facial Expression Recognition Using Facial Features and Manifold Learning *Raymond Ptucha and Andreas Savakis*
Blurring Mean-Shift with a Restricted Data-Set Modification for Applications in Image Processing *Eduard Sojka, Jan Gaura, Stepan Srubar, Tomas Fabian, and Michal Krumnikl*
Detecting Straight Line Segments Using a Triangular Neighborhood *Shengzhi Du, Chunling Tu, and Barend Jacobus van Wyk*
Size Distribution Estimation of Stone Fragments via Digital Image Processing *Mohammad Salehizadeh and Mohammad T. Sadeghi*
Image Enhancement by Median Filters in Algebraic Reconstruction Methods: An Experimental Study *Norbert Hantos and Peter Balazs*
3D Curvature-Based Shape Descriptors for Face Segmentation: An Anatomical-Based Analysis *Augusto Salazar, Alexander Ceron and Flavio Prieto*
Computational Hemodynamics in Intracranial Vessels Reconstructed from Biplane Angiograms *Fabien Scalzo, Qing Hao, Alan M. Walczak, Xiao Hu, Yiemeng Hoi, Kenneth R. Hoffmann, David S. Liebeskind*
Object Distance Estimation Based on Stereo Vision and Color Segmentation with Region Matching *Guangming Xiong, Xin Li, Junqiang Xi, Spencer G. Fowers and Huiyan Chen*
Multiscale Information Fusion by Graph Cut through Convex Optimization *Yinhui Zhang, Yunsheng Zhang, and Zifen He*
A Fast Level Set-Like Algorithm for Region-Based Active Contours *Martin Maska, Pavel Matula, Ondrej Danek, and Michal Kozubek*
A Novel Hardware Architecture for Rapid Object Detection Based on Adaboost Algorithm *Tinghui WANG, Feng ZHAO, Jiang WAN and Yongxin ZHU*
Using Perceptual Color Contrast for Color Image Processing *Guangming Xiong, Dah-Jye Lee, Spencer G. Fowers, Jianwei Gong and Huiyan Chen*
GPU Acceleration of Robust Point Matching *Chad Mourning, Scott Nykl, Huihui Xu, David Chelberg, and Jundong Liu*
A Wavelet-based Face Recognition System Using Partial Information *H.F. Neo, C.C. Teo, Andrew B.J. Teoh*
A Study of Hierarchical Correlation Clustering for Scientific Volume Data *Yi Gu and Chaoli Wang*
Subversion Statistics Sifter *Christoph Muller, Guido Reina, Michael Burch, Daniel Weiskopf*
A Lossy/Lossless Coding Algorithm Using Histogram *Sunil Bhooshan and Shipra Sharma*

Poster Session (cont'd)

Tuesday, December 30th (1:30pm – 3:30pm)

Stereo Matching in Mean Shift Attractor Space *Michal Krumnikl*
Undecimated Wavelet Transform-Based Image Interpolation *Numan Unaldi, Vijayan K. Asari*
The Influence of Multimodal 3D Visualizations on Learning Acquisition *Phuong T. Do, John R. Moreland, and Dennis P. Korchek*
Visualizing Gene Co-Expression as Google Maps *Radu Jianu and David H. Laidlaw*
A New Approach for Lighting Effect Rendering *Catherine Sauvaget and Vincent Boyer*
SemaTime - Timeline Visualization of Time-Dependent Relations and Semantics *Christian Stab, Kawa Nazemi and Dieter W. Fellner*
Comics stylizations of 3D scenes using GPU *Jordane Suarez, Fares Belhadj and Vincent Boyer*
Discovering Novelty in Gene Data: From Sequential Patterns to Visualization *Arnaud Sallaberry, Nicolas Pecheur, Sandra Bringay, Mathieu Roche, and Maguelonne Teisseire*
A Differential-Geometrical Framework for Color Image Quality Measures *Mourad Zeraý and Olfa Triki*
Three Dimensional Reconstruction using Vertical Constraints from a Photograph *Satoru Morita*
A Framework for Visual and Haptic Collaboration in Shared Virtual Spaces *Lei Wei, Alexei Sourin, and Herbert Stocker*
Design and Costs Estimation of Electrical Substations Based on Three-Dimensional Building Blocks *Eduardo Islas Pérez, Jessica Bahena Rada, Jesus Romero Lima and Mirna Molina Marín*
Generating Shaded Image with Lighting Using Image Fusion Space *Satoru Morita*
Automatic Detection of Morphologically Distinct Objects in Biomedical Images Using Second Generation Wavelets and Multiple Marked Point Process *Hiroshi Hatsuda*
Imaging-Based Computation of the Dynamics of Pelvic Floor Deformation and Strain Visualization Analysis *Christos E. Constantinou, Linda McLean, Ellen Kuhl, Bertha Chen*
Exploiting Multiple Cameras for Environmental Pathlets *Kevin Streib and James W. Davis*
On Supervised Human Activity Analysis for Structured Environments *Banafshe Arbab-Zavar, Imed Bouchrika, John N. Carter and Mark S. Nixon*
Human behavior analysis at a point of sale *R. Sicre and H. Nicolas*
Toward an Automatic Hole Characterization for Surface Correction *German Sanchez T. and John William Branch*

KEYNOTE TALK
Monday, November 29, 2010
8:30AM – 9:30 AM / Ballrooms 4-5

ISVC 2010: 6th International Symposium on Visual Computing
Las Vegas, November 29 - December 1, 2010

Computational 3D Photography: Extracting Shape, Motion and Appearance from Images

Marc Pollefeys
Department of Computer Science
ETH Zurich Switzerland

Abstract

One of the fundamental problems of computer vision is to extract 3D shape and motion from images. This can be achieved when a scene or object is observed from different viewpoints or over a period of time. There is a wide range of applications, ranging from digitizing cultural heritage to vision-based autonomous robot navigation. This talk will present several approaches to solve this problem. First, we'll discuss techniques for 3D shape recovery for static objects and scenes. One particular case is the 3D mapping and localization in large environments from images, e.g. urban 3D reconstruction from vehicle-borne cameras or localization from cell-phone images. Next, we'll shift our focus to modeling dynamic scenes, e.g. people who are moving around. In addition to explicitly 3D modeling an event, we'll consider the possibility to perform video-based rendering from casually captured videos.

Speaker Bio-Sketch: Marc Pollefeys is a full professor in the Dept. of Computer Science of ETH Zurich since 2007 where he is the head of the Institute for Visual Computing and leads the Computer Vision and Geometry lab. He currently also remains associated with the Dept. of Computer Science of the University of North Carolina at Chapel Hill where he started as an assistant professor in 2002 and became an associate professor in 2005. Before this he was a postdoctoral researcher at the Katholieke Universiteit Leuven in Belgium, where he also received his M.S. and Ph.D. degrees in 1994 and 1999, respectively. His main area of research is computer vision. One of his main research goals is to develop flexible approaches to capture visual representations of real world objects, scenes and events. Dr. Pollefeys has received several prizes for his research, including a Marr prize, an NSF CAREER award, a Packard Fellowship and a European Research Council Starting Grant. He is the author or co-author of more than 130 peer-reviewed publications. He is the General Chair for the European Conference on Computer Vision 2014 (ECCV), was a Program Co-Chair for the IEEE Conference on Computer Vision and Pattern Recognition 2009 (CVPR), was general/program co-chair of the Third Symposium on 3D Data Processing, Visualization and Transmission and has organized workshops and courses at major vision and graphics conferences and has served on the program committees of many conferences. Prof. Pollefeys is/was on the Editorial Board of the IEEE Transactions on Pattern Analysis and Machine Intelligence and the International Journal of Computer Vision as well as several other journals in computer vision, graphics and robotics.

KEYNOTE TALK
Monday, November 29, 2010
1:30PM – 2:30 PM / Ballrooms 4-5

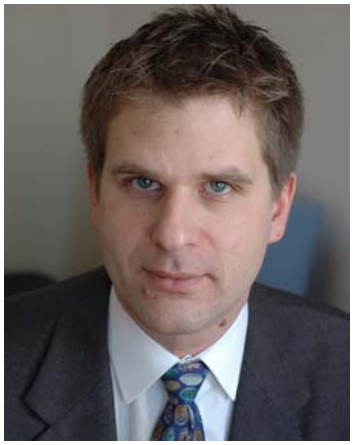
ISVC 2010: 6th International Symposium on Visual Computing
Las Vegas, November 29 - December 1, 2010

Anywhere Interfaces - Scaling and Adapting Mixed Reality, Real-Time Computer Vision, and Visualization

Tobias Hollerer
Department of Computer Science
University of California at Santa Barbara

Abstract

The biggest obstacle to intuitive context-aware computing in the physical world is no longer a lack of suitable computational platforms. Ultra-mobile personal and tablet computers are finding new users beyond their classic niche applications and the number of smartphone users is projected to exceed one billion worldwide by 2014. But there are technological limitations in scaling the user interface to something that resembles seamless interaction with the physical world and a globally distributed social network. Augmented reality is seen as a technology with great potential to provide a new browsing experience for context-aware computing, and is increasingly used in advertising and entertainment, but currently offered solutions for personal computing fall short in accuracy, robustness, and usability. This talk discusses how research in augmented and virtual reality, real-time computer vision, and information visualization might help bring about new interaction possibilities for global personal and social computing in, and related to, the physical world.



Speaker Bio-Sketch: Tobias Hollerer is an Associate Professor of Computer Science at the University of California, Santa Barbara, where he co-directs the Four Eyes Laboratory, conducting research in the four I's of Imaging, Interaction, and Innovative Interfaces. Dr. Hollerer holds a graduate degree in informatics from the Technical University of Berlin and an MS and PhD in computer science from Columbia University. He is a recipient of the National Science Foundation's CAREER award, for his work on "Anywhere Augmentation", which enables mobile computer users to place annotations in 3D space wherever they go. Dr. Hollerer is a principal investigator on the UCSB Allosphere project, designing and utilizing display and interaction technologies for a three-story surround-view immersive situation room. Dr. Hollerer has published more than 100 international journal and conference papers in the areas of augmented and virtual reality, information visualization, 3D displays and interaction, mobile and wearable computing, and adaptive user interfaces.

KEYNOTE TALK
Tuesday, November 30, 2010
8:30AM – 9:30 AM / Ballrooms 4-5

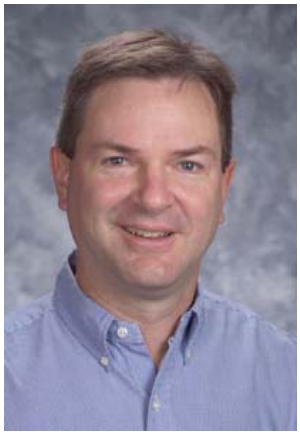
ISVC 2010: 6th International Symposium on Visual Computing
Las Vegas, November 29 - December 1, 2010

Visual Analytics for Investigative Analysis and Exploration of Documents and Data

John Stasko
School of Interactive Computing
Georgia Institute of Technology

Abstract

Whether investigators are fighting crime, curing diseases, deciding what car to buy, or researching a new field, inevitably they will encounter text documents. Unfortunately, plain (unstructured) text documents are difficult to analyze and understand especially large collections of documents. The new field of visual analytics holds promise for helping investigators with such problems. Visual analytics combines computational data analysis with interactive visualization in the context of understanding how people think and reason. It can be particularly effective in situations when the data is large and unfamiliar, and the analyst must browse and explore to learn about a situation or domain. In this talk I will describe principles from the field, illustrating how visualizations help people make sense of data. Additionally, I will introduce the Jigsaw visual analytics system that helps investigators explore and understand collections of unstructured and semi-structured text documents. In essence, Jigsaw helps investigators "put the pieces together" and gain a deeper understanding of the contents of the documents. The system pairs computational text analysis with a collection of visualizations that each portray different aspects of the documents, including connections between entities.



Speaker Bio-Sketch: John Stasko is a Professor and the Associate Chair of the School of Interactive Computing at the Georgia Institute of Technology, where he has been a faculty member since 1989. He is Director of the Information Interfaces Research Group and his primary research area is human-computer interaction, with a specific focus on information visualization and visual analytics. His research group develops ways to help people and organizations explore, analyze, understand, and make sense of data. Stasko presently is or formerly has been on the editorial board of the journals ACM Transactions on Computer-Human Interaction, IEEE Transactions on Visualization and Computer Graphics, International Journal of Human-Computer Studies, Journal of Visual Languages and Computing, and Information Visualization. He was General Chair in 2007 and Papers Co-Chair in 2005 and 2006 for the IEEE Information Visualization (InfoVis) Conference, and he was Papers Co-Chair for the 2009 IEEE Visual Analytics Science and Technology (VAST) Symposium. Stasko currently serves on the Steering Committee for the IEEE Information Visualization Conference and the ACM Symposium on Software Visualization.

BANQUET KEYNOTE TALK

Tuesday, November 30, 2010
8:00PM – 9:00 PM / East Ballrooms 6,7, & 8

ISVC 2010: 6th International Symposium on Visual Computing
Las Vegas, November 29 - December 1, 2010

Reconstructing the World from Photos on the Internet

Steve Seitz
University of Washington and Google

Abstract

There's a big difference between looking at a photograph of a place and being there. But what if you had access to a database of every possible image of that place and could conjure up any view at will? With billions of photographs currently available online, the Internet is beginning to resemble such a database, capturing our world's sites from a huge number of vantage points and viewing conditions. For example, a Google image search for "notre dame" or "grand canyon" each return millions of photos, showing the sites from myriad viewpoints, different times of day and night, and changes in season, weather and decade. This talk explores ways of transforming this massive, unorganized photo collection into 3D scene reconstructions and visualizations of the world's sites, cities, and landscapes. After a brief recap of our work on Photo Tourism and Photosynth, I will focus on current efforts and newest results in the domains of city-scale 3D reconstruction and new visual interfaces for navigating photo collections.

Speaker Bio-Sketch: Steve Seitz is a Professor in the Department of Computer Science and Engineering at the University of Washington. He also directs an imaging group at Google's Seattle office. He received his B.A. in computer science and mathematics at the University of California, Berkeley in 1991 and his Ph.D. in computer sciences at the University of Wisconsin, Madison in 1997. Following his doctoral work, he spent one year visiting the Vision Technology Group at Microsoft Research and the subsequent two years as an Assistant Professor in the Robotics Institute at Carnegie Mellon University. He joined the faculty at the University of Washington in July 2000. He was twice awarded the David Marr Prize for the best paper at the International Conference of Computer Vision, and he has received an NSF Career Award, and ONR Young Investigator Award, and an Alfred P. Sloan Fellowship. His work on Photo Tourism (joint with Noah Snavely and Rick Szeliski) formed the basis of Microsoft's Photosynth technology. Professor Seitz is interested in problems in computer vision and computer graphics. His current research focuses on 3D modeling and visualization from large photo collections.

KEYNOTE TALK
Wednesday, December 1, 2010
8:30AM – 9:30 AM / Ballrooms 4-5

ISVC 2010: 6th International Symposium on Visual Computing
Las Vegas, November 29 - December 1, 2010

Challenges and Opportunities for Extracting Cardiovascular Risk Biomarkers from non-contrast CT data

Ioannis A. Kakadiaris
Computational Biomedicine Lab
Depts. of CS, ECE, and Biomedical Engineering, U. of Houston

Abstract

In this talk, I will first offer a short overview of the research activities of the Computational Biomedicine Laboratory, University of Houston. Then, I will present our research in the area of biomedical image computing for the mining of information from cardiovascular imaging data for the detection of persons with a high likelihood of developing a heart attack in the near future (vulnerable patients). Specifically, I'll present methods for detection and segmentation of anatomical structures, and shape and motion estimation of dynamic organs. The left ventricle in non-invasive cardiac MRI data is extracted using a new multi-class, multi-feature fuzzy connectedness method and deformable models for shape and volume estimation. In non-invasive cardiac CT data, the thoracic fat is detected using a relaxed version of multi-class, multi-feature fuzzy connectedness method. Additionally, the calcified lesions in the coronary arteries are identified and quantified using a hierarchical supervised learning framework from the CT data. In non-invasive contrast-enhanced CT, the coronary arteries are detected using our tubular shape detection method for motion estimation and, possibly, for non-calcified lesion detection. In invasive IVUS imaging, our team has developed a unique IVUS acquisition protocol and novel signal/image analysis methods for the detection (for the first time in-vivo) of 'vasa vasorum' (VV). The VV are micro-vessels that are commonly present to feed the walls of larger vessels; however, recent clinical evidence has uncovered their tendency to proliferate around areas of inflammation, including the inflammation associated with vulnerable plaques. In summary, our work is focused on developing innovative computational tools to mine quantitative parameters from imaging data for early detection of asymptomatic cardiovascular patients. The expected impact of our work stems from the fact that sudden heart attack remains the number one cause of death in the US, and unpredicted heart attacks account for the majority of the $280 billion burden of cardiovascular diseases.

Speaker Bio-Sketch: Prof. Ioannis A. Kakadiaris is an Eckhard Pfeiffer Professor of Computer Science, Electrical & Computer Engineering, and Biomedical Engineering at the University of Houston. He joined UH in August 1997 after a postdoctoral fellowship at the University of Pennsylvania. Ioannis earned his B.Sc. in physics at the University of Athens in Greece, his M.Sc. in computer science from Northeastern University and his Ph. D. at the University of Pennsylvania. He is the founder of the Computational Biomedicine Lab (www.cbl.uh.edu) and in 2008 he directed the Methodist-University of Houston-Weill Cornell Medical College Institute for Biomedical Imaging Sciences (IBIS) (ibis.uh.edu). His research interests include cardiovascular informatics, biomedical image analysis, biometrics, computer vision, and pattern recognition. Dr. Kakadiaris is the recipient of a number of awards, including the NSF Early Career Development Award, Schlumberger Technical Foundation Award, UH Computer Science Research Excellence Award, UH Enron Teaching Excellence Award, and the James Muller Vulnerable Plaque Young Investigator Prize. His research has been featured on The Discovery Channel, National Public Radio, KPRC NBC News, KTRH ABC News, and KHOU CBS News.

KEYNOTE TALK
Wednesday, December 1, 2010
1:30PM – 2:30 PM / Ballrooms 4-5

ISVC 2010: 6th International Symposium on Visual Computing
Las Vegas, November 29 - December 1, 2010

Ubiquitous Displays: A Distributed Network of Active Displays

Aditi Majumder
Department of Computer Science
University of California, Irvine

Abstract

This talk presents our work-in-progress on developing a new display paradigm where displays are not mere carriers of information, but active members of the workspace interacting with data, user, environment and other displays. The goal is to integrate such active displays seamlessly with the environment making them ubiquitous to multiple users and data. Such ubiquitous display can be a critical component of the future collaborative workspace. We have developed an active display unit, a projector augmented with sensors, and an embedded computation and communication unit. We are exploring for the first time, the challenges and capabilities resulting from instrumenting a workspace with a distributed network of such active displays to achieve ubiquitous displays. Our main objective is to develop novel distributed methodologies (a) to cover existing surfaces (e.g. walls, floors) - that can deviate considerably from planar, white and Lambertian - with multiple active displays; (b) provide scalability and recon durability (in terms of scale, resolution and form factor) of displays; (c) provide a framework for shared viewing and interaction modalities for multiple users.

Speaker Bio-Sketch: Aditi Majumder is an associate professor at the Department of Computer Science in University of California, Irvine. She received her BE in Computer Science and Engineering from Jadavpur University, Calcutta, India in 1996 and PhD from Department of Computer Science, University of North Carolina at Chapel Hill in 2003. Her research area is computer graphics and vision, image processing with primary focus on multi-projector displays. Her research aims to make multi-projector displays truly commodity products and easily accessible to the common man. Her significant research contributions include photometric and color registration across multi-projector displays, enabling use of imperfect projectors in tiled displays and more recently a distributed framework for tiled displays via a distributed network of projector-camera pairs. She is the co-author of the book "Practical Multi-Projector Display Design". She was the program and general co-chair of the Projector-Camera Workshop (PROCAMS) 2005 and the program chair of PROCAMS 2009. She was also the conference co-chair for ACM Virtual Reality Software and Technology 2007. She has played a key role in developing the first curved screen multi-projector display being marketed by NEC/Alienware currently and is an advisor at Disney Imagineering for advances in their projection based theme park rides. She is the recipient of the NSF CAREER award in 2009 for Ubiquitous Displays Via a Distributed Framework.

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Prokhorov Pylvanainen Timo, Nokia, Filand
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Reed Michael, Blue Sky Studios, USA
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Salgian Andrea, The College of New Jersey, USA
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Sato Yoichi, The University of Tokyo, Japan
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Sandberg Kristian, Computational Solutions, USA
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Shah Mubarak, University of Central Florida, USA
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(Area 3) Virtual Reality

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(Area 4) Visualization

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Special Tracks

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ST6: Unconstrained Biometrics: Advances and Trends

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ST7: Behavior Detection and Modeling

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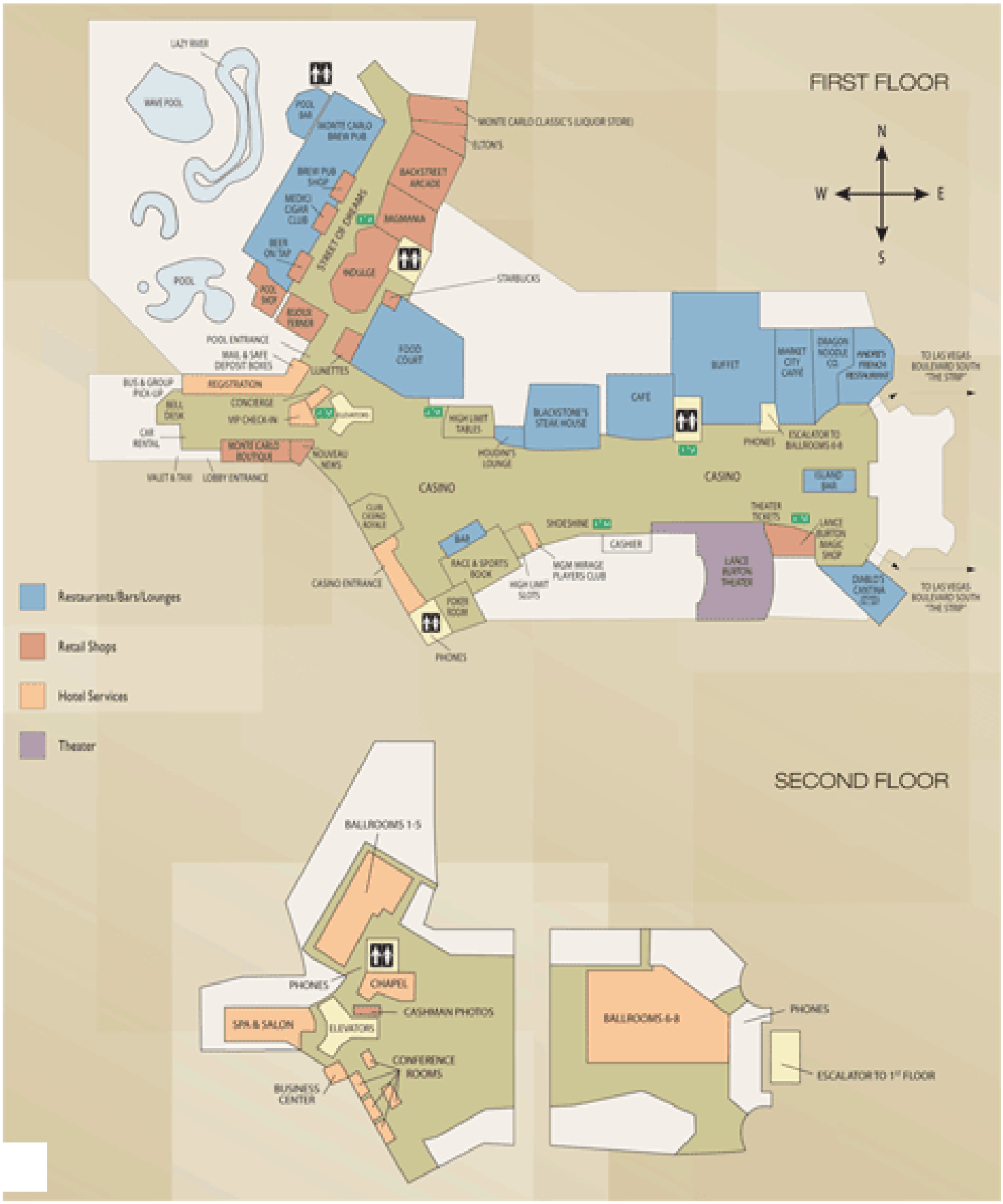
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