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Zicheng Liu

Principal Researcher

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Research areas

Graphics and multimedia

Human-computer interaction

Groups

Multimedia, Interaction, and Communication (MIC)

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Zicheng Liu received his Ph.D. in computer science from Princeton University in 1996. He got his B.S. degree in mathematics from HuaZhong Normal University, Wuhan, China, in 1984, and his M.S. in Operations Research from the Institute of Applied Mathematics, Chinese Academy of Sciences, in 1989. Before joining Microsoft Research, he worked at Silicon Graphics, Inc. as a member of technical staff for two years, where he developed the trimmed NURBS tessellator shipped in both OpenGL and the OpenGL Optimizer.

Current research interests include human activity recognition, 3D face modeling and animation, and multimedia signal processing. He has worked on a variety of topics including Steiner trees, average case complexity, linked figure animation, and trimmed NURBS tessellation for large CAD model visualization.

Liu has served in the technical committee for many international conferences. He was a member of the Audio and Electroacoustics Committee of IEEE Signal Processing Society. He is the chair of the Multimedia Systems and Applications Technical Committee of IEEE CAS society. He is a steering committee member of IEEE Transactions on Multimedia. He is the Editor-in-Chief of Journal of Visual Communications and Image Representation, and an associate editor

Communication and Collaboration Systems

of Machine Vision and Applications. He served as a guest editor of IEEE Transactions on Multimedia, and a guest editor of IEEE Multimedia Magazine. He is an affiliate professor in the department of Electrical Engineering, University of Washington. He was an IEEE distinguished lecturer from 2015-2016. He is a fellow of IEEE.

MSR Action Recognition Datasets and Codes:

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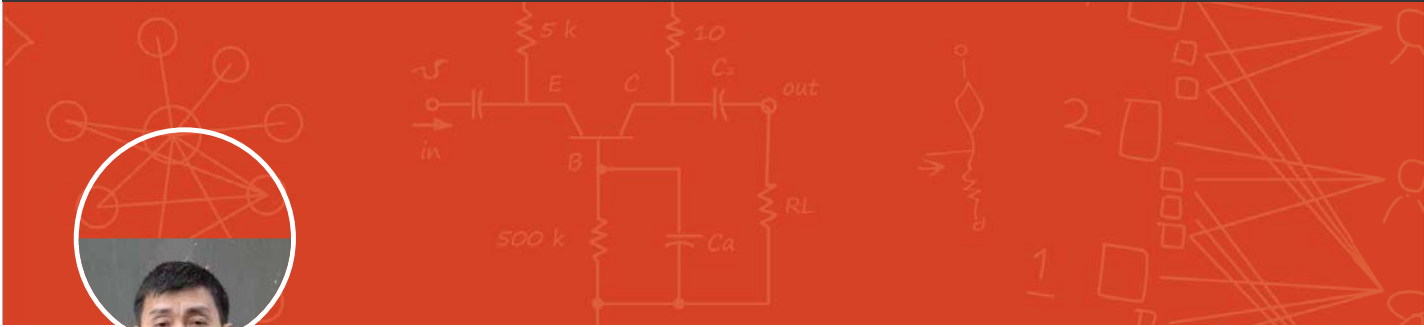
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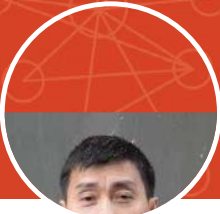
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2016

A Tube-and-Droplet-based Approach for Representing and Analyzing Motion Trajectories Weiyao Lin, Yang Zhou, Hongteng Xu, Junchi Yan, Mingliang Xu, Jianxin Wu, Zicheng Liu (zliu), September 10, 2016, View abstract, View external link

3D Cartoon Face Generation by Local Deformation Mapping Jingyong Zhou, Xin Tong, Zicheng Liu, Baining Guo, *Springer-Verlag*, June 1, 2016, View abstract, View external link

2015

ImmerseBoard: Immersive Telepresence Experience using a Digital Whiteboard
Keita Higuchi, Yinpeng Chen, Philip A. Chou, Zhengyou Zhang, Zicheng Liu, in Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems (CHI), *ACM – Association for Computing Machinery*, April 1, 2015, View abstract, Download PDF

2014

Can Visual Recognition Benefi from Auxiliary Information in Training? Qilin Zhang, Gang Hua, Wei Liu, Zicheng Liu, Zhenyoug Zhang, in Proc. The Twelvth Asian Conference on Computer Vision, November 1, 2014, View abstract

Eye Gaze Tracking Using an RGBD Camera: A Comparison with an RGB Solution Xeuhan Xiong, Qin Cai, Zicheng Liu, Zhengyou Zhang, in The 4th International Workshop on Pervasive Eye Tracking and Mobile Eye-Based Interaction (PETMEI 2014), *ACM – Association for Computing Machinery*, September 1, 2014, View abstract, Download PDF

Towards Accurate and Robust Cross-Ratio based Gaze Trackers Through Learning From Simulation J.-B. Huang, Q. Cai, N. Ahuja, Z. Zhang, Z. Liu, Zhengyou Zhang, Qin Cai, Zicheng Liu, in Eye Tracking Research and Applications (ETRA), *ACM*, March 1, 2014, View abstract, Download PDF

sTrack: Secure Tracking in Community Surveillance Chun-Te Chu, Jaeyeon Jung, Zicheng Liu, Ratul Mahajan, January 1, 2014, View abstract, Download PDF

2013

Tensor-Based Human Body Modeling Yinpeng Chen, Zicheng Liu, Zhengyou Zhang, *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, June 1, 2013, View abstract

Measuring the Engagement Level of TV Viewers Javier Hernandez, Zicheng Liu, Geoff Hulten, Dave DeBarr, Kyle Krum, Zhengyou Zhang, in Proc. IEEE Int'l Conf. on Automatic Face and Gesture Recognition,), Shanghai, China, April 22, 2013, View abstract

2012

Predicting Human Activities using Spatio-Temporal Structure of Interest Points Gang Yu, Junsong Yuan, Zicheng Liu, in Multimedia (ACMMM), *ACM*, October 29, 2012, View abstract, Download PDF

Propagative Hough Voting for Human Activity Recognition Gang Yu, Junsong Yuan, Zicheng Liu, in 12th European Conference on Computer Vision (ECCV), *Springer*, October 7, 2012, View abstract, Download PDF

Robust 3D Action Recognition with Random Occupancy Patterns Jiang Wang, Zicheng Liu, Jan Chorowski, Zhuoyuan Chen, Ying Wu, in 12th European Conference on Computer Vision (ECCV), *Springer,* October 7, 2012, View abstract, Download PDF

Mining Actionlet Ensemble for Action Recognition with Depth Cameras Jiang Wang, Zicheng Liu, Ying Wu, Junsong Yuan, *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR),* June 18, 2012, View abstract, Download PDF

Hierarchical Filtered Motion for Action Recognition in Crowded Videos Yingli Tian, Liangliang Cao, Zicheng Liu, Zhengyou Zhang, in IEEE TRANSACTIONS ON SYSTEMS, MAN, AND CYBERNETICS—PART C, May 1, 2012, View abstract

2011

Real-time Human Action Search using Random Forest based Hough Voting Gang Yu, Junsong Yuan, Zicheng Liu, in Multimeda (ACMMM), *ACM,* November 28, 2011, View abstract, Download PDF

Unsupervised Random Forest Indexing for Fast Action Search Gang Yu, Junsong Yuan, Zicheng Liu, *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR),* June 20, 2011, View abstract, Download PDF

Discriminative Video Pattern Search for Efficient Action Detection Junsong Yuan, Zicheng Liu, Ying Wu, in IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), January 1, 2011, View abstract, Download PDF

Face Geometry and Appearance Modeling Zicheng Liu, Zhengyou Zhang, *Cambridge University Press,* January 1, 2011, View abstract, View external link

Fast Action Detection via Discriminative Random Forest Voting and Top-K Subvolume Search Gang Yu, Junsong Yuan, Zicheng Liu, in IEEE Transactions on Multimedia, January 1, 2011, View abstract, Download PDF

2010

Action Recognition Based on a Bag of 3D Points Wanqing Li, Zhengyou Zhang, Zicheng Liu, in 2010 IEEE Computer Society Conference on Computer Vision and Pattern Recognition-Workshops, *IEEE,* June 13, 2010, View abstract, Download PDF

Cross-dataset Action Detection Liangliang Cao, Zicheng Liu, Thomas Huang, *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, June 13, 2010, View abstract, Download PDF

Real Time Head Pose Tracking from Multiple Cameras with a Generic Model Qin Cai, A. Sankaranarayanan, Q. Zhang, Zhengyou Zhang, Zicheng Liu, in IEEE Workshop on Analysis and Modeling of Faces and Gestures in conjunction with CVPR 2010, *IEEE*, June 1, 2010, View abstract, Download PDF

2009

Face Re-Lighting from a Single Image under Arbitrary Unknown Lighting Conditions Yang Wang, Lei Zhang, Zicheng Liu, Gang Hua, Zhen Wen, Zhengyou Zhang, Dimitris Samaras, in IEEE Transaction on Pattern Analysis and Machine Intelligence, November 1, 2009, View abstract

Sparsity Induced Similarity Measure for Label Propagation Hong Cheng, Zicheng Liu, Jie Yang, in IEEE International Conference on Computer Vision (ICCV) 2009, *IEEE*, September 29, 2009, View abstract, View external link

Efficient Scalespace Spatiotemporal Saliency Tracking for Distortion-Free Video Retargeting Gang Hua, Cha Zhang, Zicheng Liu, Zhengyou Zhang, Ying Shan, in Proc. of Asian Conf. on Computer Vision, September 1, 2009, View abstract, Download PDF

Efficient Scale-space Spatiotemporal Saliency Tracking for Distortion-Free Video Retargeting Gang Hua, Cha Zhang, Zicheng Liu, Zhengyou Zhang, Ying Shan, *Microsoft*, July 1, 2009, View abstract, Download PDF

Optimal Joint Linear Acoustic Echo Cancelation and Blind Source Separation in the Presence of Loudspeaker Nonlinearity Mehrez Souden, Zicheng Liu, in 2009 IEEE International Conference on Multimedia and Expo (ICME 2009), June 30 - July 2, 2009, Cancun, Mexico, *IEEE*, June 30, 2009, View abstract, Download PDF

Discriminative Subvolume Search for Efficient Action Detection Junsong Yuan, Zicheng Liu, Ying Wu, in IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2009), Miami, Florida, June 22-24, 2009., *IEEE Computer Society*, June 22, 2009, View abstract

Active lighting for video conferencing Mingxuan Sun, Zicheng Liu, Jingyu Qiu, Zhengyou Zhang, Mike Sinclair, in IEEE Transaction on Circuits and Systems for Video Technology (TCSVT), *IEEE*, January 1, 2009, View abstract, Download PDF