Dr. Suxing Liu

CONTACT INFORMATION

Department of Plant Biology
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University of Georgia
Athens, GA 30602

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EDUCATION

03/2006-06/2009
Ph.D. in Communication and Information Engineering
Shanghai University, China
Dissertation: " Research on some key technologies concerning 3D multi-view video system"
Advisors: Zhaoyang Zhang & Ping An

09/1999-03/2006
M.sc. and B.sc., Electronic & Information Engineering
North University of China, China
Dissertation: "Video & image feature extraction based on DSP"
Advisor for M.sc. and B.sc thesis: Yan Han

STRENGTH & EXPERTISE

Professional Skills
Machine learning, Pattern recognition, 3D display; 3D/Stereo/Multi-view image & video processing; 3D Computer vision;
Image processing; Computer graphics; CG modeling; human-computer interaction (HCI); Augmented reality, Visual SLAM
Programming language: Matlab, C/C++, OpenGL, OpenCV, Visual Studio C++ (GUI design), MFC. Python

English level
Fluent both in oral & written. TOEFL: 603 (667) GRE: 1200(1600), Second Prize 'National English Contest for College Students'

PROFESSIONAL EXPIERIENCE

06/2017 - present
Postdocoral research associate, Department of Plant Biology, Warnell School of Forestry and Natural Resources and Institute of Bioinformatics, University of Georgia, USA

09/2014-06/2017
Research Associate at Arkansas State University, Jonesboro, AR, USA

09/2013-09/2014
PostDoc Researcher at James and Jean Culver Vision Discovery Institute,
Georgia Regents University, Augusta,GA,USA

11/2010-11/2012
Research Engineer at Barcelona Media – Innovation Centre, Spain, Europe

09/2010-09/2009
PostDoc Researcher at EISLAB, Luleå University of Technology, Sweden, Europe

AWARDS & HONORS

04/2017
Second place for the Young Scientist Excellence Award at 2017 MidSouth Computational Biology and Bioinformatics Society

09/1999 - 06/2003
Presidential Award for Excellent college student years

Book

《**Internet Surfing Tutorial**》, Editor in Chief, Sep. 2001, Sichuan Science and Technology Publication Press, 260 thousand words, ISBN 7-5364-4746-9/TP.154. 《**3G Mobile Phone**》, Editor in Chief, Feb. 2010, China Machine Press, 220 thousand words, ISBN 7-5364-4746-9/TP.154

Patents

"Virtual view rendering method for converge camera array system", Feb. 18th 2009: CN101369348, Patent Office of China

"Free viewpoint image quality evaluation method based on ray-space", Jul. 8th 2009: CN101478694, Patent Office of China

JOURNAL PUBLICATIONS

[1] Liu S, Acosta-Gamboa LM, Huang X, Lorence A. (2017)Novel low-cost 3D surface model reconstruction system for plant phenotyping, *Journal of Imaging*. 3(3): 39.

[2] Liu S, Acosta-Gamboa LM, Huang X, Lorence A. A novel approach to leaf counting for Arabidopsis. In preparation to *Journal of Computational Biology.* (2017)

[3] Acosta-Gamboa LM, Liu S, Campbell Z, Torres R, Suza W, Yactayo-Chang JP, Gaxiola R, Huang X, Lorence A. High throughput phenotyping of high ascorbate Arabidopsis lines under salt and water limitation conditions. In preparation to *Frontiers in Plant Science*. (2017)

[4] Acosta-Gamboa L M, Liu S, Langley E, et al. (2016) Moderate to severe water limitation differentially affects the phenome and ionome of Arabidopsis. *Functional Plant Biology (SCI),* 44(1): 94-106.

[5] Liu, S.-X.;, Z. Yang (2015) Action Encoding and Recognition based on Multi-Scale Spatial-Temporal Natural Action Structures, *Journal of Vision*, vol3, 12-14.

[6] Wang Y, Liu, S.-X.; (2015) Spatio-temporal Feature Classifier. *Open Automation and Control Systems Journal (EI)* 7: 1-7.

[7] Y. Wang, Liu, S.-X.; (2013). Implementation of 3D Modeling and Visualization for CAE Industry Application, *Advanced Materials Research (EI)* 675: 63-66.

[8] Yun W., Liu, S.-X.; (2013) Meshing Generation Platform for Industrial Production Models based on 3D Computational Model, *Advanced Materials Research(EI)* 675: 144-147.

[9] Liu, S.-X.;, M. Caballero (2012). 3D Compositing: Object insertion based on 2.5D format. *IEEE 2012 International Symposium on Haptic Audio Visual Environments and Games (HAVE 2012)(EI)* October: 8-9.

[10] W. Yun, Liu, S.-X.;, Li W. (2012) Development of platform for meshing and visualization of 3D computational model, *Journal of Lanzhou University of Technology,* Vol. 38(4): 78-79

[11] Zhang Q, Liu S, An P, et al. (2009) Object segmentation based on disparity estimation[C]*Proceedings of the first ACM/SIGEVO Summit on Genetic and Evolutionary Computation. ACM,* 1053-1056.

[12] Liu, S.-X.; An, P.; PMi. T.; Zhang, Z.-Y (2009) Virtual View synthesis and Plane Sweep based Depth Correction for Free-view Video, *Journal of Optoelectronics Laser (EI)* 9:1234-1237.

[13] Liu, Zhan-Wei; An, Ping; Liu, Su-Xing; Zhang, Zhao-Yang (2007). Arbitrary view generation based on DIBR. Proceedings: *2007 IEEE International Symposium on Intelligent Signal Processing and Communication Systems, ISPACS 2007(EI):* 168-171.

[14] Zhang, Q.; Liu, S.-X.; An, P.; Zhang, Z.-Y (2009) A novel DIBR method based on image inpainting. *Journal of Optoelectronics Laser (EI),* 2009,(10):1381~1384

[15] Liu, S.-X.; An, P.; Zhang, Z.-Y.; Zhang, Q. Tao Y. (2009) Multi-view video coding based on resultant vector estimation and weighted disparity interpolation. *Circuits, Systems & Signal Processing (SCI)* 28 (6): 913.

[16] Shen L, Liu Z, Liu S, et al. (2009) Selective disparity estimation and variable size motion estimation based on motion homogeneity for multi-view coding[J]. *IEEE Transactions on Broadcasting*, 55(4): 761-766.

[17] Liu, S.-X.; An, P.; Zhang, Z.-Y.; Zhang, Q.; Shen, L.-Q.; Jiang, G.-Y (2009) High quality virtual view synthesis based on corrected surface mapping and image fusion. *Electronics Letters (SCI)* 45(1): 30-32.

[18] Liu, S.-X.; An, P.; Zhang, Z.-Y.; Zhang, Q.; Shen, L.-Q.; Jiang, G.-Y (2009) On the relationship between multi-view data capturing and quality of rendered virtual view, *Imaging Science Journal (SCI)* l57: 250-259.

[19] Liu, S.-X.; An, P.; Zhang, Z.-Y (2008) A plane-sweep based depth reconstruction for DIBR. *Chinese Journal of Electron Devices*, 2008(01): 320-324

[20] An, P.; Zhang, Z.-Y.; Liu, S.-X (2008) Image mosaic based view synthesis for interactive stereoscopic display. *Chinese Journal*

of Electron Devices, 2008(01): 285-289

[21] Zhang, Z.-Y.; An, P.; Liu, S.-X (2008) 3D multi-view stereoscopic display and its key technologies. *Chinese Journal of Electron Devices*, 2008(01): 302-307

[22] Mi. T.; An, P.; Liu, S.-X.; Zhang, Z.-Y (2008) Multi-camera calibration based on multi- view registration algorithm. *Journal of Image and Graphics*. 2008(10): 1922-1925

[23] Shi X, Zhang Z, Shen L, et al. (2007) Multiresolution segmentation of video objects in the compression domain [J]. *Optical Engineering,* 46(9): 097401.

[24] An, P.; LIU, Z.-W.; Liu, S.-X.; Zhang, Z.-Y (2007). Intermediate view synthesis based on image mosaic in video conferencing. *Journal of Shanghai University (Natural Science Edition)*, 2007(10): 371-376

[25] LIU, Z.-W.; An, P.; Liu, S.-X.; Zhang, Z.-Y (2007) Arbitrary view rendering based on DIBR and image mergence. *Journal of Image and Graphics*, 2007(10): 1696-1700

[26] Liu, S.-X.; Zhang, Z.-Y.; LIU, Z.-W.; An, P (2007) Interactive arbitrary-view rendering system using fast IBR and depth correction, Proceedings: 2007 *IEEE International Symposium on Intelligent Signal Processing and Communication Systems, ISPACS (EI)*, 2008: 164-167.

[27] Liu, S.-X.; An, P.; Zhang, Z.-Y.; Liu, Z.-W (2007) Multi-view video coding based on resultant vector estimation, *Proceedings: The 2nd IET International Communication Conference on Wireless Mobile & Sensor Networks (EI)*, 2007(12): 359-363.

[28] An, P.; Liu, S.-X.; GAO, X.; Zhang, Z.-Y (2006) Stereoscopic video object extraction based on disparity and threshold. *Journal of Image and Graphics*. 2006(11): 1669-1673

PROFESSIONAL ACTIVITIES

Presentation	Arkansas EPScoR State Conference	2016
Presentation	Plant Imaging Consortium Annual Meeting	2016
Presentation	54th Annual Meeting of the Phytochemical Society of North America	2015
Presentation	Arkansas NSF EPSCOR Annual Conference	2015
Reviewers	Imaging Science Journal	2012
Reviewers	National Academic Science Letters	2012
Presentation	IEEE 2012 International Symposium on Haptic Audio Visual Environments and Games (HAVE 2012), Germany	2012
Reviewers	2010 European Signal Processing Conference (EUSIPCO-2010), Denmark	2010
Presentation	IET International Communication Conference on Wireless Mobile & Sensor Networks , Shanghai, China	2007
Presentation	International Symposium on Intelligent Signal Processing and Communications Systems, Xianmen, China	2007

TEACHING EXPERIENCE

Date	Title	Task	Teaching hours
2004.9~2005.9	Teaching assistant for undergraduate students	Co-taught the course Digital Image Processing (w/Prof. Han) at North University of China	60 hours
2004.9~2005.2	Daily mentor of the Bachelor thesis	Daily mentor of the Bachelor thesis at North University of China	40 hours
2006.9~2007.2	Teaching assistant for graduate student	Co-taught the course Digital Image Processing (w/Prof. An) at Shanghai University	64 hours
2007.3~2008.3	Daily mentor of the Bachelor thesis at Shanghai University	Thesis title: " Making 3D videos with computer vision techniques"	80 hours
2007.9~2008.3	Daily mentor of the Bachelor thesis at Shanghai University	Thesis title: " Study of image-based rendering techniques for multiview video data"	42 hours
2008.6~2009.6	Daily mentor of the Master thesis at Shanghai University	Thesis title: "Object extraction in traffic monitoring videos"	80 hours