# Miao Zhang

*Curriculum Vitae*

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## Work Experience

2015.03–Present School of Software Technology, Daian University of Technology, P.R. China
**Associate Professor**

2013.02–2015.02 School of Computer Engineering, Keimyung University, South Korea
**Assistant Professor**

2013.02–2015.02 Dept. of Computer Science, DigiPen Institute of Technology, USA
**Adjunct Professor**

2012.03–2012.12 3D Display Research Center, Kwangwoon University, South Korea
**Research Professor**

2007.09–2008.12 Dept. of Information and Communications, Pukyong National University, South Korea
**Research Assistant**

## Education

2009.3 – 2012.2 **Electric Engineering**, Kwangwoon University, Seoul, Korea **Ph.D.**

2010.10-2012.03 **Information and Communication Engineering**, Pukyong National University, Busan, Korea **M.E.**

2000.09–2005.07 **Computer and Information Technology**, Memorials University of Newfoundland, St. John's, Canada **B.E.**

## Areas of Research Interest

3D Sensing and Display

3D Information Processing

Occluded Object Visualization and Recognition

3D Photon Counting Imaging

## Courses

**Spring Semester:**

Object-Oriented Programming in C++ (Lectured in English)

**Fall Semester:**

Data Structure

## Research Projects

2015.03-2016.12 "Research on 3D display of flat panel equipments based on off-axially distributed sensing", **Dalian University of Technology**

2007.09-2011.12 "Research and Development of Next-generation Realistic Commercial 3D Display Technology", **Ministry of Knowledge Economy**

## Publications:Journal Paper

[1] M. Zhang, Z. Zhong, and Yongri Piao, "Visual quality enhancement of three-dimensional integral imaging reconstruction for partially occluded objects using exemplar-baed image restoration," Journal of Information and Communication Convergence Engineering 14(1): Accept (2016)

[2] Yongri Piao, L. Xing, M. Zhang, and B. -G. Lee, "Three-dimensional reconstruction of far and big objects using synthetic aperture integral imaging," Optics Laser in Engineering XX(xx): Under review(2016).

[3] [3] Yongri Piao, H. Qu, M. Zhang, and M. Cho, "Three-dimensional integral imaging display system via off-axially distributed image sensing," Optics and Lasers in Engineering XX(xx): Accept, (2016).

[4] M. Zhang, Yongri Piao, and M. Cho, "Monte Carlo analysis of voxel resolution of off-axially distributed image sensing," Optics Communications 363: 176-180 (2016).

[5] Z. Wang, Yongri Piao, M. Jin, "Laser spot detection using robust dictionary construction and update," Journal of Information and Communication Convergence Engineering 13(1): 42-49 (2015).

[6] M. Zhang, Yongri Piao, N.-W. Kim, and E. -S. Kim, "Distortion-free wide-angle 3D imaging and visualization using off-axially distributed image sensing," Optics Letter 39(14): 4212-4214 (2014).

[7] Yongri Piao, M. Zhang, J. -J. Lee, D. Shin, and B. -G. Lee, "Orthoscopic integral imaging display by use of the computational method based on lenslet model," Optics and Lasers in Engineering 52: 184-188 (2014).

[8] M. Zhang, Yongri Piao, J. -J. Lee, D. Shin, and B. -G. Lee, "Visualization of partially occluded 3D object using wedge prism-based axially distributed sensing," Optics Communications 313: 204-209 (2014).

[9] Yongri Piao, M. Zhang, D. Shin, and H. Yoo, "Three-dimensional imaging and visualization using off-axially distributed image sensing," Optics Letters 38(16): 3162-3164 (2013).

[10] Yongri Piao, Y.-M. Kwon, M. Zhang, J. -J. Lee, "Accelerated generation algorithm for an elemental image array using depth information in computational integral imaging," Journal of Information and Communication Convergence Engineering 11(2): 132-138 (2013)

[11] D. -H. Kim, Yongri Piao, S. -J. Cho, M. Zhang, S. -T. KIM, "3D image encryption using integral imaging scheme and MLCA technology," Applied Mechanics and Materials 284: 2955-2960 (2013).

[12] Yongri Piao, M. Zhang, E.-S. Kim, S. -T. Kim, "Enhanced orthoscopic integral imaging reconstruction using moving pixel mapping," Optics and Lasers in Engineering 50(11): 862-868 (2012).

[13] Yongri Piao, M. Zhang, E.-S. Kim, "Effective reconstruction of a partially occluded 3-D target by using a pixel restoration scheme in computational integral imaging," Optics and Lasers in Engineering 50(6): 1602-1610 (2012).

[14] Yongri Piao, M. Zhang, E.-S. Kim, "Resolution-enhanced magnification of far 3-D objects image by using the moving-direct-pixel-mapping method in scalable integral-imaging system," Japanese Journal of Applied Physics 51(2): 022501-8 (2012).

[15] M. Zhang, Yongri Piao, E.-S. Kim, "Optical display of magnified, real and orthoscopic 3-D object images by movingdirect-pixel-mapping in the scalable integral-imaging system," Optics Communications 284(21): 5093-5099 (2011).

[16] M. Zhang, Yongri Piao, E.-S. Kim, "Visibility-enhanced reconstruction of three-dimensional objects under a heavily scattering medium through combined use of intermediate view reconstruction, multi-pixel extraction, and histogram equalization methods in the conventional integral imaging system," Applied Optics 50(28): 5369-5381 (2011).

[17] Yongri Piao, M. Zhang, E.-S. Kim, "Performance-enhanced recognition of a far and partially occluded 3D objects using direct pixel mapping in computational curving-effective integral imaging," Optics Communications 284(3): 747-755 (2011).

[18] P. Han, Yongri Piao, M. Zhang, E.-S. Kim, "Accelerated reconstruction of 3-D object images using estimated object area in backward computational integral imaging reconstruction," 3D Research 1(4): 1-8 (2010).

[19] M. Zhang, Yongri Piao, E.-S. Kim, "Occlusion-removed scheme using depth-reversed method in computational integral imaging," Applied Optics 49(14): 2571-2580 (2010).

[20] Yongri Piao, D.-H. Shin, M. Zhang, E.-S. Kim, "Computational depth conversion of reconstructed three-dimensional object images in curving effective integral imaging system," Japanese Journal of Applied Physics 49(2): 022501-7 (2010).

## Publications:International Conference Paper (Selected)

[1] J. Liu, Yongri Piao, L.Xing, and M. Zhang "Three-dimensional compressed photon counting sensing based on axially distributed imaging structure," 2015 OSA Imaging and Applied Optics Congress: Computational Optical Sensing and Imaging, 7-11 June, Arlington, Virginia, USA, Poster

[2] Z. Zhong,Yongri Piao, H. Qu, and M. Zhang, "MST-based occlusion detection in synthetic aperture integral imaging," 2015 OSA Imaging and Applied Optics Congress: Computational Optical Sensing and Imaging, 7-11 June, Arlington, Virginia, USA, Poster.

[3] L.Xing,Yongri Piao, H. Qu, M. Zhang, and D. Shin, "Depth controlled far 3D objects reconstruction in integral imaging system," 2015 Digital Holography and Three-Dimensional Imaging, 24-28 May 2015, Shanghai, China, Oral.

[4] H. Qu,Yongri Piao, L. Xing, and M. Zhang, "Segmentation-based occlusion removal technique for partially occluded 3D objects in integral imaging system," 2015 Digital Holography and Three-Dimensional Imaging, 24-28 May 2015, Shanghai, China, Oral.

[5] L Xing,Yongri Piao, H. Qu, and M. Zhang, "Computational 3D reconstruction of far and big size objects using synthetic aperture integral imaging," 2015 IEEE International Conference on Image Processing, 27-30 Sep. 2015, Quebec, Canada, Oral.

[6] Yongri Piao, M. Zhang, and D. Shin, "Partially occluded 3D reconstruction by using off-axially distributed sensing structure," 2014 Digital Holography and Three-Dimensional Imaging, 13-17 July 2014, Seattle, USA, Oral.

[7] Yongri Piao, M. Zhang, D. Shin, S. -M. Hong, N. -W. Kim, "Undistorted 3D Imaging by Using Off-Axially Distributed Wide-Angle Sensing," The 13th International Meeting on Information Display, 26-29 August 2013, Daegu, South Korea, Poster.

[8] Yongri Piao, M. Zhang, J.-J. Lee, D. Shin, B.-G. Lee, "3D imaging and visualization using axially distributed sensing with wedge prism," The 13th International Meeting on Information Display, 26-29 August 2013, Daegu, South Korea, Poster.

[9] Yongri Piao, M. Zhang, D. Shin, B. -G. Lee, "Generation of depth converted elemental images based on lenslet approximation in integral imaging system," 2013 Digital Holography and Three-Dimensional Imaging, 21-24 April 2013, Hawaii, USA, Oral

[10] Yongri Piao, M. Zhang, "PO conversion and its applications in integral imaging," 2012 NIMS Hot Topics Workshop on High Definition 3D Imaging and Display System, 27-28 Nov. 2012, Daejeon, South Korea, Oral.

[11] M. Zhang, Yongri Piao, E. -S. Kim, "Enhanced 3D objects recognition using direct pixel mapping in curving-effect integral imaging system," The 10th International Meeting on Information Display, 11-15 Oct. 2010, Soul, South Korea, Oral.

[12] N.-S. Choi, D. Shin, B. -G. Lee, Yongri Piao, and E. -S. Kim, "Improved reconstruction of partially occluded 3-D objects using recursive PCA algorithm in computational integral imaging," 2010 Digital Holography and Three Dimensional Imaging, 11-15 April 2010, Miami, USA,Poster

[13] M. Zhang, Yongri Piao, and E. -S. Kim, "Resolution-enhanced curving-effective integral imaging system for far 3D objects using direct pixel mapping," 2010 Digital Holography and Three-Dimensional Imaging, 11-15 April 2010, Miami, USA,Oral.

[14] P. Han, Yongri Piao, M. Zhang, and E. -S. Kim, "Fast local reconstruction of integral imaging based on backward computational integral imaging reconstruction," 2010 Digital Holography and Three-Dimensional Imaging, Miami, 11-15 April 2010, Miami, USA,Oral.

[15] Yongri Piao, M. Zhang, and E.-S. Kim, "Depth conversion method in curved integral imaging system using a large aperture lens," 2010 Digital Holography and Three-Dimensional Imaging, Miami, 11-15 April 2010, Miami, USA, Oral.