

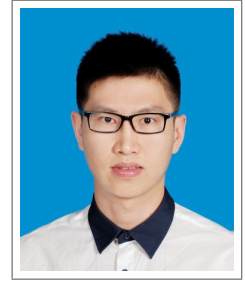
Xinchen Ye

Curriculum Vitae

School of Software Technology
Dalian University of Technology
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Personal Information

Age **27** Hometown **Heilongjiang, Daqing** Degree **Ph.D.**
Major **Inf. & Com. Eng.** Research direction **Image Processing & computer vision.**

Experiences

2016.6–Now **Lecturer** *School of Software Technology* Dalian University of Technology (DUT)
P.R.China.

Education

Jan.2015–Oct.2015 **Visiting scholar** *School of Electronics, École polytechnique fédérale de Lausanne (EPFL), Switzerland.*
Sep.2012–Jan.2016 **Ph.D. in Information and Communication Engineering** *School of Electronic Information Engineering, Tianjin University, China.*
Sep.2010–Jul.2012 **Master in Information and Communication Engineering** *School of Electronic Information Engineering, Tianjin University, China.*
Sep.2006–Jul.2010 **Bachelor in Communication Engineering** *School of Electronic Information Engineering, Tianjin University, China.*

Grants

2016.6–Now The Fundamental Research Funds for the Central Universities (1600-852045).
2014.12–2015.8 Sino Swiss Science and Technology Cooperation (SSSTC) (FU-06-032014).

Research Experience

Jan.2015–Oct.2015 **Multi-view depth video recovery based on the new version Kinect.**

- o **Sino Swiss Science and Technology Cooperation (SSSTC)**
- o To build a new depth sensor based multi-view acquisition system, and do the depth video restoration on the obtained views; so far, there is little research at home and abroad about the recovery of the multi-view depth video.
- o To use the auto-regressive (AR) model for multi-view depth video recovery, and derive a fixed-point iterative algorithm to solve the basic AR model, which each iteration is a local filtering process with an residue feedback. Instead of the global algorithm, the proposed algorithm runs faster, and has a flexible framework.

- Jan.2014–Oct.2015 **Visible and infrared Image reconstruction based on coded aperture and coded shutter.**
- **Cooperation with China Aerospace Science and Industry Corp.**
 - To insert a patterned occluder within the aperture of the camera lens, creating a coded aperture. then recover both depth information and an all-focus image from single photographs taken with the modified camera.
 - To construct adaptive coded-aperture imager operating in the mid-wave infrared to address these requirements, and can produce images with a resolution better than that achieved by the detector pixel itself.
 - To propose design rules for a shutter code to have good PSF estimation capability and outline two search criteria for finding the optimal code for a given length.
- Jan.2014–Dec.2017 **3DTV data acquisition system based on Kinect.**
- **National Natural Science Foundation of China**, Computational depth reconstruction for 3D scenes and its 3DTV applications
 - To build imaging systems based on Kinect depth camera; for acquired degraded depth map, edge-guided trilateral filter is designed to get the high quality depth
 - To use DIBR technique (Depth Image Based Rendering) to render new views, and propose the low-rank matrix restoration model to inpaint disocclusion regions, fully exploiting the nonlocal correlations in images. Strong 3D visual experiences are observed when the synthesized multi-view images are shown in the stereoscopic displays.
- Apr.2014–Mar.2015 **Research on depth recovery and 3D imaging system using Time-of-Flight camera.**
- **Tianjin General Program**, 3DTV Content Generation and Compression Based on a Compound Multi-Camera System
 - To propose an adaptive color-guided autoregressive (AR) model for high quality depth recovery from low quality measurements captured by depth cameras.
 - To analyze the stability of the proposed method from a linear system point of view, and design a parameter adaptation scheme to achieve stable and accurate depth recovery.
- Jan.2014–Dec.2016 **Foreground-Background Separation From Video Clips via Motion-Assisted Matrix Restoration.**
- **National Natural Science Foundation of China**, Sampling and 3-D Reconstruction for Real Scenes via Multi-Sensors
 - To propose a motion-assisted matrix restoration (MAMR) model for foreground-background separation in video clips.
 - The motion information and anchor frames selection are integrated into the MAMR model to overcome the difficulty of detecting slowly-moving objects and camouflages.

Publications

Journals.

1. Jingyu Yang, Xuemeng Yang, **Xinchen Ye***. Reconstruction of Structurally-Incomplete Matrices with Reweighted Low-rank and Sparsity Priors, accepted by IEEE Transactions on Image Processing.
2. **Xinchen Ye**, Jingyu Yang, Pascal Frossard. Global auto-regressive depth recovery via non-local iterative filtering, submit to IEEE Transactions on Image Processing.
3. **Xinchen Ye**, Jingyu Yang, Xin Sun, et al. Foreground-Background Separation from Video Clips via Motion Assisted Matrix Restoration, **IEEE Transactions on Circuits and Systems for Video Technology**, 25(11), pp.1721-1734, 2015.
4. **Xinchen Ye**, Jingyu Yang, Hao Huang, et al. Computational Multi-view Imaging With Kinect, **IEEE Transactions on Broadcasting**, 60(3), pp.540-554, 2014.

5. Jingyu Yang, **Xinchen Ye***, Chunping Hou, et al. Color-Guided Depth Recovery From RGB-D Data Using an Adaptive Autoregressive Model, **IEEE Transactions on Image Processing**, 23(8), pp.3443-3458, 2014.

Conferences.

1. Jinghui Bai, Jingyu Yang, **Xinchen Ye**. Depth Refinement for Binocular Kinect RGB-D Cameras. Visual Communications and Image Processing (VCIP), 2016, Beijing, China.
2. **Xinchen Ye**, Xiaolin Song, Jingyu Yang. Depth Recovery via Decomposition of Polynomial and Piece-wise Constant Signals. Visual Communications and Image Processing (VCIP), 2016, Beijing, China.
3. Jingyu Yang, Xuemeng Yang, **Xinchen Ye**. Completion of Structurally-Incomplete Matrices with Reweighted Low-rank and Sparsity Priors (ReLaSP). IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2015.
4. Jingyu Yang, Xin Sun, **Xinchen Ye**, et al. Background Extraction from Video Sequences via Motion-assisted Matrix Completion, **IEEE International Conference on Image Processing (ICIP)**, pp.2437-2441, 2014.
5. Jingyu Yang, **Xinchen Ye**, Kun Li, et al. Depth Recovery using an Adaptive Color-guided Auto-Regressive Model, **European Conference on Computer Vision (ECCV)**. Springer, 2012: 158-171.

Patents of Invention

1. **Xinchen Ye**, Haojie Li. Multi-view depth video recovery with Microsoft Kinect, Chinese Patent, ID: 201610680651.9.
2. **Xinchen Ye**, Haojie Li. Depth computational reconstruction with global modeling and non-local filtering, Chinese Patent, ID: 201610680688.1.
3. **Xinchen Ye**, Haojie Li. scene depth reconstruction with signal decomposition model, Chinese Patent, ID: 201610823231.1.
4. Jingyu Yang, Xuemeng Yang **Xinchen Ye**. Reconstruction of Structurally-Incomplete Matrices based on Low-rank Priors, Chinese Patent, ID: 201510264039.9.
5. Jingyu Yang, **Xinchen Ye**. Adaptive parameters selection based on the auto-regression model from depth recovery, Chinese Patent, ID: 201310073242.9.
6. Jingyu Yang, **Xinchen Ye**. Depth Super-resolution Based on Auto-Regressive (AR) Model, Chinese Patent, ID: 201210109883.0.
7. Jingyu Yang, **Xinchen Ye**. A Computing Imaging Method Based on Time-of-Flight Camera, Chinese Patent, ID: 201210110335.X.

Awards

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| 2014-2015 | Zhonghuan Scholarship of China. |
| 2007-2008 | Merit Student of Tianjin University. |
| 2008-2009 | Merit Student of Tianjin University. |