Feng Li

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Google Scholar: citations?user=1bzFZ7cAAAAJ

Education

Ph.D. in Computer Science, University of Delaware, Newark, DE. Fall 2011.

Dissertation: A Hybrid Camera System for Low-light Imaging.

Committee: Jingyi Yu (chair), Chandra Kambhamettu, Christopher Rasmussen, and Rob Fergus.

M.E. in Electrical Engineering, Shanghai Jiao Tong University, Shanghai, China. Mar 2006.

Thesis: Improvement on Multi-view Face Detection Algorithms.

Advisor: Lixiu Yao and Jie Yang.

B.E. in Electrical Engineering, Fuzhou University, Fujian, China. Jul 2003.

Honors & Awards

Outstanding Reviewer Award, CVPR 2013, Portland, Oregon, Jun 2013.

Doctoral Consortium Travel Award, CVPR 2011, Colorado Springs, CO, Jun 2011.

Quantum Leap Innovations Graduate Student Excellence Award, University of Delaware, May 2010.

Professional Development Award, University of Delaware, 2008, 2010.

Honorable Graduation, Fuzhou University, China, Jul 2003.

Professional Experience

Technical Lead/Research Scientist, Light, Palo Alto, CA. 12/2014–present.

- Lead depth related product development, including multi-view stereo estimation, occlusion handling, shallow depth-of-field rendering, image matting, and depth editing.

Senior Algorithm Engineer, Qualcomm, San Diego, CA. 06/2013–12/2014.

- Algorithm design and evaluation of pipeline processing modules: smart sharpening, skin-tone noise reduction, edge-aware up-scaling, and companding for multi-tier Qualcomm Snapdragon cameras.
- Fixed point implementations and hardware Visio designs of the above camera ISP modules.

Research Scientist,Adjunct, Mitsubishi Electric Research Labs (MERL),Cambridge,MA. 11/11-06/13

- Defocus measurement based on kurtosis analysis and harmonic variance, and a unified Laplacian spectrum based image segmentation approach for fore/background segmentation, defocus segmentation, human detection refinement, and etc..
- Biomechanical model based 4D Thoracic CT simulation (with Finite Element analysis) for examining patient lung deformation induced by respiratory motion, given only one 3DCT scan.
- Designed a 3D regression algorithm for tracking lung tumors (during radiation therapy) on orthogonal X-ray video sequences with a biomechanical human breathing constraint.

Research Intern, Mitsubishi Electric Research Labs (MERL), Cambridge, MA. 06/2011–08/2011.

- Implemented and compared the performance of several state-of-the-art tracking algorithms on 2D orthogonal X-ray video sequences.

Research Intern, Thomson Corporate Research (Technicolor), Princeton, NJ. 02/2009–05/2009.

- Developed software packages of camera calibration, rectification, and depth estimation for a 3DTV content acquisition system.
- Fatigue analysis of 3DTV video streams by sparse disparity computation.

Research Intern, Microsoft Research Asia, Beijing. 07/2008–10/2008.

- Designed a dual focus stereo imaging technique which takes a defocused stereo pair as input for low-light imaging, automatic defocus matting, and multifocus photomontage.

Technical Marketing Engineer, Intel Asia-Pacific Research & Development Ltd.. 04/2006–07/2006.

- Supported nationwide i-cafe customers for Intel Platform Administration Technology products.
- Led software testing for Intel *Slick Mountain* project, a hardware-based VOIP solution.

Software Engineering Intern, Intel China Software Center, Shanghai. 09/2005–03/2006.

- Assisted business customers in tuning parallel programs on Itanium/Xeon clusters.

Publications

Journal Papers

1. **Feng Li** and Fatih Porikli, *Biomechanical Model based 4DCT Simulation*, Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization, 2014.
2. **Feng Li** and Fatih Porikli, *Tracking Lung Tumors in Orthogonal X-Rays*, Computational and Mathematical Methods in Medicine, in special issue "Biomedical Signal and Image Processing for Clinical Decision Support Systems", 2013.
3. Christopher Thorpe, **Feng Li**, Zijia Li, Zhan Yu, David Saunders, and Jingyi Yu, *A Coprime Blur Scheme for Data Security in Video Surveillance*, IEEE TPAMI, 2013.
4. Yu-Wing Tai, Xiaogang Chen, Sunyeong Kim, Seon Joo Kim, **Feng Li**, Jie Yang, Jingyi Yu, Yasuyuki Matsushita, and Michael S. Brown, *Nonlinear Camera Response Functions and Image Deblurring: Theoretical Analysis and Practice*, IEEE TPAMI, Feb. 2013.
5. Zhan Yu, Christopher Thorpe, Xuan Yu, Scott Grauer-Gray, **Feng Li**, and Jingyi Yu, *Racking focus and tracking focus on live video streams: a stereo solution*, The Visual Computer, Feb. 2013.
6. **Feng Li**, Jian Sun, Jue Wang, and Jingyi Yu, *Dual Focus Stereo Imaging*, SPIE Journal of Electronic Imaging, Vol. 19, No. 4, 2010.
7. Chunhua Du, Jie Yang, Qiang Wu, and **Feng Li**, *Integrating Affinity Propagation Clustering Method with Linear Discriminant Analysis for Face Recognition*, SPIE Optical Engineering, 46(11), 2007.
8. Xinliang Ge, Jie Yang, **Feng Li**, and Huahua Wang, *Statistical Model-Based Face Pose Estimation*, Transaction of Tianjin University, 13(2), 2007.
9. Xinliang Ge, Jie Yang, Zhonglong Zheng, and **Feng Li**, *Multi-view Based Face Chin Contour Extraction*, ELSEVIER Engineering Applications of Artificial Intelligence, 19(5), 2006.
10. **Feng Li**, Lixiu Yao, Jie Yang, and Xinliang Ge, *Face Detection in Color Images with Complex Environments*, Journal of Shanghai Jiao Tong University, 40(5), 2006.

Conference Papers

11. **Feng Li** and Fatih Porikli, *Enforcing Point-wise Priors on Binary Segmentation*, BMVC 2015.
12. **Feng Li** and Fatih Porikli, *Biomechanical Simulation of Lung Deformation from One CT Scan*, Bio-Imaging and Visualization for Patient-Customized Simulations - MICCAI 2013 Workshop, SPRINGER "Lecture Notes in Computational Vision and Biomechanics", Volume 13, pp 15-28, 2014.
13. **Feng Li** and Fatih Porikli, *Harmonic Variance: A Novel Measure for In-focus Segmentation*, BMVC 2013.
14. Xiaogang Chen, **Feng Li**, Jie Yang, and Jingyi Yu, *An Theoretical Analysis of Camera Response Functions in Image Deblurring*, ECCV 2012.
15. Jinwei Ye, Yu Ji, **Feng Li**, and Jingyi Yu, *Angular Domain Reconstruction of Dynamic 3D Fluid Surfaces*, CVPR 2012.
16. **Feng Li**, Zijia Li, David Saunders, and Jingyi Yu, *A Theory of Coprime Blurred Pairs*, ICCV 2011.
17. Yuanyuan Ding, **Feng Li**, Yu Ji, and Jingyi Yu, *Dynamic Fluid Surface Acquisition Using a Camera Array*, ICCV 2011.
18. Yi Wu, Haibin Ling, Jingyi Yu, **Feng Li**, Xue Mei, and Erkang Cheng, *Blurred Target Tracking by Blur-driven Tracker*, ICCV 2011.
19. Yi Wu, Jing Hu, **Feng Li**, Erkang Cheng, Jingyi Yu, and Haibin Ling, *Kernel-based Motion-blurred Target Tracking*, International Symposium on Visual Computing (ISVC) 2011.
20. Zhan Yu, Christopher Thorpe, Xuan Yu, Scott Grauer-Gray, **Feng Li**, and Jingyi Yu, *Dynamic Depth-of-Field on Live Video Streams: A Stereo Solution*, Computer Graphics International (CGI) 2011.
21. **Feng Li**, Liwei Xu, Philippe Guyenne, and Jingyi Yu, *Recovering Fluid-type Motions Using Navier-Stokes Potential Flow*, CVPR 2010.
22. **Feng Li**, Jingyi Yu, and Jinxiang Chai, *A Hybrid Camera for Motion Deblurring and Depth Map Super-Resolution*, CVPR 2008.
23. Xuan Yu, **Feng Li**, and Jingyi Yu, *Image-space Caustics and Curvatures*, Pacific Graphics 2007.

Patents

24. Rajiv Laroia, Fan Sai Kuok, Jannie Lai, Jared Torres Calinisan, and **Feng Li**, *Methods and Apparatus for Receiving, Storing and/or Using Camera Settings and/or User Preference Information*, PCT 15/296,892.
25. Michael Tao, **Feng Li**, and YiChang Shih, *Methods and Apparatus for Taking into Consideration Possible Object Depth As Part Of A Composite Image Generation Process*, US Patent Application.
26. **Feng Li**, Shufei Fan, Shilpi Sahu, Min Li, Yunqiang Chen, and Xiaoyun Jiang, *Digital Zoom Methods and Systems*, US 14/631,588.
27. Fatih Porikli and **Feng Li**, *Method for Data Segmentation using Laplacian Graphs* , US 13/948,397.
28. Fatih Porikli and **Feng Li**, *A Biomechanical Model Based 4DCT Simulator*, US 13/765,757.
29. Fatih Porikli and **Feng Li**, *3D Object Tracking in Multiple 2D Sequences*, US 13/632,500.
30. Izzat Izzat and **Feng Li**, *Stereo-Image Quality and Disparity/Depth Indications*, US 13/515,605.
31. Lixiu Yao, Lei Tian, and **Feng Li**, *Face Detection in Color Images with Complex Environments*, CN1932847.

Professional Activities

Reviewer for Journals:

IEEE Transactions on Image Processing; IEEE Transactions on Circuits and Systems for Video Technology; IEEE Transactions on Visualization and Computer Graphics; Elsevier Neurocomputing; OSA Optics Express; Springer The Visual Computer; Springer Machine Vision and Applications; Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization; IET Image Processing.

Program Committee Member for Conferences:

IEEE Conf. on Computer Vision and Pattern Recognition (CVPR), 2011–15; IEEE Int'l Conf. on Computer Vision (ICCV), 2011, 2013; European Conf. on Computer Vision (ECCV), 2012; Int'l Conf. on Computing, Networking and Communications (ICNC), 2013.

Reviewer for Conferences:

ACM SIGGRAPH 2011; Pacific Graphics 2011,2013.

Invited Talks:

Building a Hybrid Camera Array for Low Light Imaging

- *Temple University, Philadelphia, PA. 10/1/2010.*

Professional Societies:

- IEEE: member since 2008.

Participation at Conferences/Trainings:

- IEEE Conf. on Computer Vision and Pattern Recognition (CVPR), 2008, 2010–2012, 2015, 2016.
- IPAM Workshop on Computational Photography and Intelligent Cameras, February, 2015.
- IEEE Int'l Conf. on Computational Photography (ICCP), 2013, 2014.
- Respiratory Motion Management for Radiation Therapy (MMRT) Peering Training, School of Medicine, Washington University in St. Louis, April 2013.
- 54th Annual Meeting, American Society for Radiation Oncology (ASTRO), October 2012.
- Embedded Vision Summit East, in conjunction with DESIGN East, September 2012.
- The State of the Art Techniques in IMRT, IGRT, SBRT, Proton and Brachytherapy Symposium, American Society for Radiation Oncology (ASTRO), May 2012.
- ACM Int'l Conf. on Computer Graphics and Interactive Techniques (SIGGRAPH), August 2007.