

Ce Liu

PhD Student

Computer Science and Artificial Intelligence Laboratory (CSAIL)

Perceptual Science Group (PERSCI)

Department of Electrical Engineering and Computer Science

Massachusetts Institute of Technology

CONTACT INFORMATION

Address:

32-D460, Stata Center, CSAIL MIT

32 Vassar Street, Cambridge, MA 02139

Phone: +1 617 253 3497 (O) +1 617 947 6317 (C)

Email: celiu@mit.edu

Homepage: <http://people.csail.mit.edu/~celiu>

REFERENCES

- William T. Freeman Professor, Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology.
Email: billf@mit.edu. Tel: +1 617 253 8828
- Edward H. Adelson Professor of Vision Science, Department of Brain and Cognitive Science, Massachusetts Institute of Technology.
Email: adelson@csail.mit.edu. Tel: +1 617 253 0645
- Harry Shum Vice President, Distinguished Engineer, Microsoft Corporation
Email: hshum@microsoft.com. Tel: +86 10 62617711
- Richard Szeliski Group Manager, Senior Researcher. Interactive Visual Media Group, Microsoft Research
Email: szeliski@microsoft.com. Tel: +1 425 706 4774
- Changshui Zhang Professor, Department of Automation, Tsinghua University
Email: zcs@mail.tsinghua.edu.cn. Tel: +86 10 62782455

EDUCATION AND WORKING EXPERIENCE

- Spring 2006, teaching assistant of class 6.098/6.882 computational photography
- 2005, summer intern at Interactive Visual Media Group, Microsoft Research.
- 2004~now, Reviewer of *IEEE Trans. on Pattern Analysis and Machine Intelligence*, *IEEE Trans. on Image Processing*, *ACM SIGGRAPH*, *IEEE CVPR*, *ECCV*, *NIPS*.
- 2003~now, PhD student in Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology.
- 2002~2003, Assistant Researcher, Microsoft Research Asia.
- 2002, Master of Engineering, Institute of Pattern Recognition and Intelligent Systems, Department of Automation, Tsinghua University.
- 1999, Bachelor of Engineering, Department of Automation, Tsinghua University.

RESEARCH INTERESTS

Computer Vision, Computer Graphics, Computational Photography, applications of Machine Learning in Vision and Graphics

AWARDS

- Xerox Fellowship, 2007
- **Outstanding Student Paper Award**, Neural Information Processing Systems (NIPS), 2006
- Microsoft Fellowship, 2005-2006
- Webster Fellowship, MIT, 2003.
- 1st Prize of Mathematical Contest on Modeling (undergraduate), USA, 1998.
- 1st Prize of Mathematical Contest on Modeling (undergraduate), China, 1997.
- Outstanding student of Tsinghua University, 1996.
- 1st Prize of National Physics Competition (high school), China, 1994.
- Diamond Prize of National Painting Contest, 1990.
- One of 1000 Young Artists of China, 1987.

PUBLICATIONS

Journal Papers

1. C. Liu, R. Szeliski, S. B. Kang, C. L. Zitnick and W. T. Freeman. Automatic estimation and removal of noise from a single image. *IEEE Transactions on Pattern Analysis and Machine Intelligence* (TPAMI), Vol. 30, No. 2, pp. 299-314, February 2008.
2. C. Liu, H.Y. Shum and W.T. Freeman. Face hallucination: theory and practice. *International Journal of Computer Vision* (IJCV), Vol. 75, No. 1, pp. 115-134, October 2007.
3. C. Liu, A. Torralba, W.T. Freeman, F. Durand and E.H. Adelson. Motion magnification. *ACM Transactions on Graphics* (SIGGRAPH 2005), pp. 519-526, August 2005.
4. C.Y. Wu, C. Liu, H.Y. Shum, Y.Q. Xu and Z.Y. Zhang. Automatic eyeglasses removal from face images. *IEEE Transactions on Pattern Analysis and Machine Intelligence* (TPAMI), Vol. 26, No. 3, pp. 322-336, March 2004.
5. S. C. Yan, C. Liu, S. Z. Li, H.J. Zhang, H. Shum, Q. S. Cheng. Face alignment using texture constrained active shape models. *Image and Vision Computing*, Vol. 21, Issue 1, Pages 69-75, January 2003.
6. L. Liang, C. Liu, Y.Q. Xu, B.N. Guo and H.Y. Shum. Real-time texture synthesis by patch-based sampling. *ACM Transactions on Graphics* (TOG), Vol. 20, No. 3, pp. 127-150, July 2001.

Referred Conference Papers

7. C. Liu, J. Yuen, A. Torralba, J. Sivic and W. T. Freeman. Scene alignment using generalized optical flow. *European Conference on Computer Vision* (ECCV), 2008.
8. C. Liu, W. T. Freeman, E. H. Adelson and Y. Weiss. Human-Assisted Motion Annotation. *IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), 2008.
9. B. Russell, A. Torralba, C. Liu, R. Fergus and W. T. Freeman. Object recognition by scene alignment. *Advances in Neural Information Processing Systems* (NIPS), 2007.
10. M. Tappen, C Liu, W. T. Freeman and E. H. Adelson. Learning Gaussian conditional random fields for low-level vision. *IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), pp. 1-8, 2007.
11. C. Liu, W.T. Freeman and E.H. Adelson. Analysis of contour motions. *Advances in Neural Information Processing Systems* (NIPS), 2006. Received **Outstanding Student Paper Award**.

12. C. Liu, W.T. Freeman, R. Szeliski and S.B. Kang. Noise estimation from a single image. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pp. 901-908, 2006.
13. L. Yuan, F. Wen, C. Liu and H.Y. Shum. Synthesizing dynamic texture with closed-loop linear dynamic system. *European Conference on Computer Vision (ECCV)*, 2004.
14. C. Liu and H.Y. Shum. Kullback-Leibler boosting. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pp. 587-594, 2003.
15. Z.Q. Liu, C. Liu, H.Y. Shum and Y.Z. Yu. Pattern-based texture metamorphosis. *Pacific Conference on Computer Graphics and Applications*, pp. 184-193, 2002.
16. S.C. Yan, C. Liu, S. Z. Li, L. Zhu, Z. H.J. Zhang, H.Y. Shum and Q. S. Cheng. Texture constrained active shape models. *ECCV 2002 Workshop on Generative Model Based Vision*. Copenhagen, Denmark. May, 2002.
17. C. Liu, H.Y. Shum and S.C. Zhang. Hierarchical shape model for automatic face localization. *European Conference on Computer Vision (ECCV)*, pp. 687-703, 2002.
18. C.Y. Wu, C. Liu, H.Y. Shum, Y.Q. Xu and Z.Y. Zhang. Automatic eyeglasses removal from face images. *Asian Conference on Computer Vision*, pp. 193-198, 2002.
19. C. Liu, H.Y. Shum and C.S. Zhang. Two-step approach to hallucinating faces: global parametric model and local nonparametric model. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Vol. 1, pp. 192-198, 2001.
20. C.Y. Wu, C. Liu and J. Zhou. Eyeglasses verification by support vector machine. *IEEE Pacific Ring Conference on Multimedia*, pp. 1126-1131, 2001.
21. C. Liu, S.C. Zhu and H.Y. Shum. Learning inhomogeneous Gibbs model of faces by minimax entropy. *IEEE International Conference on Computer Vision (ICCV)*, pp. 281-287, 2001.

Technical Reports

22. C. Liu, R. Szeliski, S. B. Kang, C. L. Zitnick and W. T. Freeman. Automatic estimation and removal of noise from a single image. Microsoft Tech Report, MSR-TR-2006-180.
23. B.N. Guo, L. Liang, C. Liu, Y.Q. Xu and H.Y. Shum. Real-time texture synthesis by patch-based sampling. Microsoft Tech Report, MSR-TR-2001-40

Referred Abstracts

24. C. Liu, E. H. Adelson and W. T. Freeman. Human-assisted motion annotation for real-world videos. To be presented at *Vision Science Society (VSS)*.

TALKS

Oct 2001	Microsoft	Face hallucination: global parametric and local nonparametric model
Feb 2002	U.C. Berkley	Face hallucination: global parametric and local nonparametric model
Aug 2005	SIGGRAPH	Motion magnification
Jun 2006	CVPR	Automatic noise estimation from a single image
Dec 2006	NIPS	Analysis of contour motions
Mar 2008	CSAIL MIT	Bridging the gap between human and computer analysis on motion
May 2008	VSS	Human-assisted motion annotation for real-world videos
Jun 2008	CVPR	Human-assisted motion annotation

PERSONAL

Interests: painting (both Chinese and western styles), digital photo and video special effects, photography, soccer, volleyball, cooking