

Ming-Sui (Amy) Lee

CONTACT INFORMATION

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RESEARCH INTERESTS

Multimedia Signal Processing with emphasis on Digital Image/Video Processing Techniques and Applications, including

- Image/Video Registration and Mosaicking
- Super-Resolution Techniques
- Compressed-Domain Image/Video Processing
- Low-Complexity Algorithms and Implementations
- Color Processing
- Consumer Electronics Applications (e.g. Portable Digital Image/Video Capturing Devices)

EDUCATION

University of Southern California, Los Angeles, CA
Ph. D., Electrical Engineering, December 2006

University of California-Los Angeles, Los Angeles, CA
M.S., Electrical Engineering, June 2002

National Cheng Chi University, Taipei, Taiwan
B. S., Mathematical Sciences, June 1999

EXPERIENCES

University of Southern California, Los Angeles, CA (May 2006 – Aug. 2006)
Teaching Assistant for the Course “Introduction to Digital Image Processing”

- Holding weekly office hours, managing course website, and designing homework and exam problems

University of Southern California, Los Angeles, CA (Aug. 2002 – present)

Research Assistant

- Conducted research on the post-processing of compressed image and video
- Conducting a cooperative research project with the KDDI Research Labs., Tokyo, Japan (February 2006 – January 2007) on “Low Complexity Super Resolution Techniques for Compressed Image/Video ”
 - Developed a method for image content analysis and classification in the compressed domain
 - Developing a low complexity technique for super resolution image/video reconstruction

- Conducted a cooperative research project with the KDDI Research Labs., Tokyo, Japan (Nov. 2003 – Oct. 2004) on “ Compressed-domain Image/Video Mosaicking Techniques ”
 - Developed a color matching technique for compressed images/video
 - Developed low complexity algorithms for image/video registration in the compressed domain

National Cheng Chi University, Taipei, Taiwan (Sep. 1997 – Jun. 1999)

Teaching Assistant for the Course on “Physics Labs.”

- Presented lectures in lab sessions, demonstrated equipment operations, graded lab reports, exam and quiz materials

PROFESSIONAL BACKGROUND

Courses taken at University of Southern California (USC), Los Angeles, CA

- Random Processes in Engineering
- Selected Topics in Digital Image Processing (Multimedia Data Compression)
- Adaptive Signal Processing
- Computer Graphics
- Introduction to Digital Image Processing
- Introduction to Cryptography
- Multimedia System Design

Courses taken at University of California-Los Angeles (UCLA), Los Angeles, CA

- Linear Programming
- Stochastic Modeling with Applications to Telecommunication Systems
- Telecommunication Switching and Queuing Systems
- Estimation and Detection in Communication and Radar Engineering
- Information Theory: Channel and Source Coding
- Channel Coding Theory
- Signal Processing in Communications

PROFESSIONAL ACTIVITIES

- Reviewer for IEEE Transactions on Image Processing
- Reviewer for JVCI, Journal of Communication and Image Representation
- Reviewer for EURASIP, Journal on Applied Signal Processing
- Reviewer for IEEE MMSP, Workshop on Multimedia Signal Processing
- Reviewer for ISCAS, International Symposium on Circuit and Systems
- Reviewer for VCIP, Visual Communications and Image Processing
- Reviewer for IEEE MWSCAS, International Midwest Symposium on Circuits and Systems

PUBLICATIONS

1. Ming-Sui Lee, Meiyin Shen, C. –C. Jay Kuo, “Pixel- and compressed-domain color matching techniques for video mosaic application,” *Conference on Image and Video*

Communications and Processing in IS&T/SPIE 18th International Symposium on Electronic Imaging, San Jose, CA, January 17-22, 2004..

2. Ming-Sui Lee, Meiyin Shen, C. -C. Jay Kuo, "Color matching techniques for video mosaic applications," *IEEE International Conference on Multimedia and Expo (ICME)*, Taipei, Taiwan, June 27-30, 2004.
3. Ming-Sui Lee, Meiyin Shen, C. -C. Jay Kuo, "DCT-domain image registration techniques for compressed video," *Multimedia Systems and Applications VII*, Part of *SPIE's International Symposium on Optics East/Information Technology and Communications (ITCOM)*, Philadelphia, PA, October 25-28, 2004.
4. Ming-Sui Lee, Meiyin Shen, C. -C. Jay Kuo, "Compressed domain registration techniques for MPEG video," *Conference on Image and Video Communications and Processing in IS&T/SPIE 17th International Symposium on Electronic Imaging*, San Jose, CA, January 16-20, 2005.
5. Ming-Sui Lee, Meiyin Shen, C. -C. Jay Kuo, "A fast compressed-domain image registration technique for video mosaic," *IEEE International Symposium on Circuit and Systems (ISCAS)*, Kobe, Japan, May 23-26, 2005.
6. Ming-Sui Lee, Meiyin Shen, C. -C. Jay Kuo, "A DCT-domain video alignment techniques for MPEG sequences," *IEEE International Workshop on Multimedia Signal Processing (MMSP)*, Shanghai, China, October 30-November 2, 2005.
7. Yi-Chen Tsai, Ming-Sui Lee, Meiyin Shen and C.-C. Jay Kuo, "A reduced color approach to high quality cartoon coding," *SPIE Optics & Photonics*, San Diego, CA, July 31-August 2, 2005.
8. Yi-Chen Tsai, Ming-Sui Lee, Meiyin Shen and C.-C. Jay Kuo, "A quad-tree decomposition approach to cartoon image compression," *IEEE International Workshop on Multimedia Signal Processing (MMSP)*, Victoria, Canada, October 3-6, 2006.
9. Ming-Sui Lee, Meiyin Shen, Akio Yoneyama and C. - C. Jay Kuo, "Techniques for flexible image/video resolution conversion with heterogeneous terminals," *IEEE Communications Magazine, Special Issue on Advances in Visual Content Analysis and Adaptation for Multimedia Communications*, January, 2007.
10. Ming-Sui Lee, Meiyin Shen, and C.-C. Jay Kuo, "A content-adaptive up-sampling technique for image resolution enhancement," submitted to *IEEE International Symposium on Circuits and Systems*, New Orleans, May 27-30, 2007.
11. Ming-Sui Lee, Meiyin Shen, and C.-C. Jay Kuo, "DCT-domain processing for coded image registration," in preparation, to be submitted to *IEEE Trans. on Circuits and Systems for Video Technology* in December 2006.
12. Ming-Sui Lee, Meiyin Shen, and C.-C. Jay Kuo, "Fast DCT-domain color compensation and matching techniques," in preparation, to be submitted to *IEEE Trans. on Circuits and Systems for Video Technology* in December 2006.

HONORS AND AWARDS

- **Academic Achievement Award** (Jun. 1999)
National Cheng Chi University

REFERENCES

Professor C.-C. Jay Kuo

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University of Southern California
Los Angeles, CA 90089-2564
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