

- EDUCATION** *Ph.D. Candidate* Sep., 2007 – Present
Electrical Engineering, Stanford University
Coursework: image and video compression, computer networks, information theory I & II, universal schemes in information theory, statistical signal processing, machine learning, convex optimization, game theory, linear dynamical systems, computer organization, electromagnetic waves
Research Advisor: Bernd Girod
GPA: 4.0/4
- Master of Engineering (by Research)* Aug., 2005 – May, 2007
Electrical Engineering, National University of Singapore
Coursework: cryptography, pattern recognition, multimedia networking
Research Advisors: Qibin Sun & Yong Lian
GPA: 4.67/5
- Bachelor of Engineering (with 1st Class Honors)* Aug., 2001 – May, 2005
Electrical Engineering, National University of Singapore
Focused on: wireless communications, signal processing
GPA: 4.71/5, major 4.88/5

RESEARCH

General Interests
Multimedia Signal Processing & Networking, Machine Learning, Security

Research Projects

- Joint source-channel coding for compressed sensing (summer intern 2009)
- Error-resilient IPTV video multicast (with Cisco, on-going)
- Robust video streaming using distributed source coding
- Secure watermarking in encrypted domain
- Multimedia stream authentication over wireless networks (M.Eng. thesis)
- Reversible watermarking for scalable audio coder (B.Eng. thesis)
- Cognitive graphical password with shoulder-surfing resistance
- Implementation of a music retrieval system based on music score analysis (summer intern 2003)

Journal Papers

- Z. Li, Q. Sun, Y. Lian and C.W. Chen, “Joint source-channel-authentication resource allocation and unequal authenticity protection for multimedia over wireless networks”, in *IEEE Trans. Multimedia*, Vol. 9, No. 4, p837-850, Jun. 2007.
- Z. Li, Q. Sun and Y. Lian, “Design and analysis of a scalable watermarking scheme for the scalable audio coder”, in *IEEE Trans. Signal Processing*, Vol. 54, No. 8, p3064-3077, August 2006.

Conference Papers

- Z. Li, F. Wu and J. Wright, “On the systematic measurement matrix for compressed sensing in the presence of gross errors”, to submit.
- Z. Li, X. Zhu, A. Begen and B. Girod, “Peer-assisted packet loss repair for IPTV multicast”, in *Proc. ACM Conference on Multimedia*, 2009.

- Z. Li, X. Zhu, A. Begen and B. Girod, “Forward and retransmitted Systematic Lossy Error Protection for IPTV video multicast”, in *Proc. International Packet Video Workshop*, 2009.
- Z. Li, Y.-C. Lin, D. Varodayan, P. Baccichet and B. Girod, “Distortion-aware retransmission and concealment of video packets using a Wyner-Ziv-coded thumbnail”, in *Proc. IEEE Workshop on Multimedia Signal Processing*, 2008.
- Z. Li, X. Zhu, Y. Lian and Q. Sun, “Constructing secure content-dependent watermarking scheme using homomorphic encryption”, in *Proc. IEEE Int. Conf. Multimedia and Expo*, 2007. – *Best Student Paper*
- Z. Li, Y. Lian, Q. Sun and C.W. Chen, “Authenticating multimedia transmitted over wireless networks: a content-aware stream-level approach”, in *Proc. IEEE Int. Conf. Multimedia and Expo*, 2006.
- Z. Li, Q. Sun and Y. Lian, “Unequal authenticity protection (UAP) for rate-distortion-optimized secure streaming of multimedia over wireless networks”, in *Proc. IEEE Int. Sym. Circuits and Systems*, 2006.
- Z. Li, Q. Sun and Y. Lian, “An adaptive scalable watermark scheme for high-quality audio archiving and streaming applications”, in *Proc. IEEE Int. Conf. on Multimedia and Expo*, 2005.
- Z. Li, Q. Sun, Y. Lian and D.D. Giusto, “An association-based graphical password design resistant to shoulder-surfing attack”, in *Proc. IEEE Int. Conf. on Multimedia and Expo*, 2005.

Class Projects

- Z. Li and B. Peleato, “Train your TV”, CS229 Machine Learning, Fall 08/09.
- V. Chandrasekhar, S.-H. Tsai and Z. Li, “Rate-constrained classification using BFOS algorithm”, EE378 Statistical Signal Processing, Spring 07/08.
- Z. Li, “Distortion-aware retransmission of video packets and error concealment using thumbnail”, EE398 Image and Video Compression, Winter 07/08.

EXPERIENCES	Summer Intern, Microsoft Research Asia, Beijing	2009
	Research Associate, Nanyang Technological University, Singapore	2007
	Reviewer, IEEE Trans. CSVT	2006 – Present
	Lecturer, I ² R DIP Workshop for Nanyang Girls’ High School	2006
	Summer Intern, Institute for Infocomm Research, Singapore	2003/2004

SKILLS

C/C++, Matlab, Java
 Javascript, HTML, \LaTeX , PHP, Flash/Actionscript, ns-2
 Linux, Unix

HONORS

Best Student Paper Award, IEEE ICME’07	2007
Graduate Fellowship, School of Engineering, Stanford University	2007
Singapore Indian Chamber of Commerce Medal	2005
Graduate Scholarship, National University of Singapore	2005
Undergraduate Scholarship, Ministry of Education, Singapore	1999

REFERENCES

Prof. Bernd Girod (bgirod@stanford.edu), Professor of Electrical Engineering and (by courtesy) Computer Science, Stanford University

Dr. Qibin Sun (qibin.sun@hp.com), Senior Manager, Experience Software Business, Personal System Group, HP China

Prof. Chang Wen Chen (chencw@buffalo.edu), Professor of Computer Science and

Engineering, University at Buffalo, the State University of New York