

Yushi Shen

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EDUCATION

- 09/2003-08/2006: **Ph.D.**, Electrical Engineering, Univ. of CA, San Diego. **GPA: 4.0/4.0**
General Leadership Certificate
Minor in Economics, Emphasis on Finance and Business
- 09/2001-08/2003: **M.S.**, Electrical Engineering, Univ. of CA, San Diego. **GPA: 4.0/4.0**
- 09/1997-07/2001: **B.S.**, Electrical Engineering, Tsinghua University, China. **GPA: 3.85/4.0**

WORKING EXPERIENCE

- 10/2006-Present: **Software Design Engineer (SDE)**, Digital Media Division, Microsoft Corporate, Inc., Redmond, WA, 98052
- Software design and maintenance for general Windows Media Techniques, including windows media player (WMP), windows media center (WMC), windows media encoder (WME), windows media streaming (WMS), and digital rights management (DRM) system
- 11/2004-09/2006: **System Design Consultant** (Part-time), Entropic Communications, Inc., San Diego, CA, 92121
- System design for multimedia communications and distributions over Coax cables
- 06/2005-09/2005: **Baseband System Engineer**, Networking & Computing Systems Group, Freescale Semiconductor, Inc., Austin, Texas, 78729
- Design and implementation for channel estimations in OFDM/OFDMA systems
 - Algorithm design on transcoding of MPEG-4 videos
- 06/2000-09/2000: **Development Engineer**, IBM China Company Limited, Beijing, China, 100101
- Development and performance analysis of the IBM LAN architecture, and testing the IBM global E-Commerce services and net speed

ACADEMIA EXPERIENCE

- 09/2001-09/2006: **Graduate Researcher**, instructed by Prof. Pamela C. Cosman and Prof. Laurence B. Milstein, Dept. of Electrical and Computer Engineering, Univ. of CA at San Diego (UCSD), La Jolla, 92093
- Cross-layer design for wired and wireless video communication systems, with optimal bandwidth and power allocation, and with optimal delay budget partitioning
 - Development of video compression algorithms, combined with error correction coding
 - Development of DS-CDMA, Multi-Carrier CDMA and OFDMA communication systems
- 09/2000-08/2001: **Research Assistant**, instructed by Prof. Zhenghe Feng and Prof. Xiaokang Lin, State Key Lab on Microwave and Digital Communications, Tsinghua Univ., China, 100084
- Investigation and implementation of the algorithms in smart antenna systems

TEACHING EXPERIENCE

- 11/2004-03/2006: **Student Tutor** for M.S. Comprehensive Examination on Applied Math with Communication Systems Concentration, at San Diego State Univ. (SDSU)

- Lectures on Fourier Analysis, Digital Communications, and Cryptography

SERVICES

09/2004-Present: **Reviewer** for multiple Archived Journals and Conferences in the area of Electrical and Computer Engineering

07/2002-09/2006: **Lab System Administrator**, Information Code Lab (ICL), ECE Dept., UCSD

- Setup and maintenance of lab servers, computers and software
- UNIX Programming for auto-system testing, backup, and updating

09/2005-08/2006: **Vice President**, Chinese Students and Scholars Association (CSSA), UCSD

AWARDS

06/2002-09/2006: Research Assistant Scholarship, Center for Wireless Comm., UCSD

05/2006: Chinese Government Award for Outstanding Abroad Students

07/2003-06/2005: Cal-IT2 Fellowship, California Institute for Telecomm. and Information Tech.

09/2003: 2003 Outstanding Student Member with Highest Honor

09/2001-06/2002: Departmental Fellowship, ECE Dept., UCSD

IEEE JOURNAL PUBLICATIONS

1. **Y. Shen**, P. C. Cosman, and L. B. Milstein, "Weight Distribution of a Class of Binary Linear Block Codes Formed from RCPC Codes", *IEEE Commu. Letters*, vol.9, no.9, pp.811-813, Sept. 2005.
2. **Y. Shen**, P. C. Cosman, and L. B. Milstein, "Video Coding with Fixed Length Packetization for a Tandem Channel", *IEEE Trans. on Image Processing*, vol.15, no.2, pp.273- 288, Feb. 2006.
3. **Y. Shen**, P. C. Cosman, and L. B. Milstein, "Error Resilient Video Communications over CDMA Networks with a Bandwidth Constraint", *IEEE Trans. on Image Processing*, vol.15, no.11, pp.3241-3252, Nov. 2006.
4. **Y. Shen**, K. Mehrotra, P. C. Cosman, and L. B. Milstein, "Delay Allocation between Source Encoder Buffer and Interleaver for Wireless Video", under review.
5. **Y. Shen**, P. C. Cosman, L. B. Milstein, and E. F. Martinez, "On Uplink Channel Estimation in WiMAX Systems", under review.
6. **Y. Shen**, A. Leontaris, P. C. Cosman, and L. B. Milstein, "Delay Budget Partitioning in Wireless Multimedia", in preparation.

CONFERENCE AND TECHNICAL PUBLICATIONS

1. **Y. Shen**, P. C. Cosman, and L. B. Milstein, "Video Communications with Optimal Intra/Inter-Mode Switching over Wireless Internet", Proceedings of the 37th *Asilomar Conference* on Signals, Systems and Computers, pp. 1548-1552, Pacific Grove, California, USA, Nov. 9-12, 2003.
2. **Y. Shen**, P. C. Cosman, and L. B. Milstein, "Video Coding for a Time Varying Tandem Channel with Feedback", Proceedings of the *IEEE Data Compression Conference (DCC)*, pp. 480, Snowbird, Utah, USA, March 29-31, 2005.
3. **Y. Shen** and E. F. Martinez, "Channel Estimation on OFDM Systems", Application Notes, AN3059, Freescale Semiconductor Inc., Jan. 2006.
4. **Y. Shen** and E. F. Martinez, "WiMAX Channel Estimation: Algorithms and Implementations", Application Notes, AN3429, Freescale Semiconductor Inc., July 2007.
5. **Y. Shen** and E. F. Martinez, "Image and Video Coding: Fundamentals, Standards, and Perspectives", Application Notes, *Freescale Semiconductor, Inc.*, Accepted.