# **IEEE TSP AE Nominee Short Biography Info Sheet:**

## Xiao-Ping Zhang, Ph.D., P.Eng., M.B.A., SMIEEE

Professor, Program Director of Graduate Studies Dept. of Electrical & Computer Engineering Ryerson University 350 Victoria Street, Toronto, Ontario CANADA, M5B 2K3

Tel : (416) 979-5000 ext. 6686 Fax : (416) 979-5280 E-mail : xzhang@ee.ryerson.ca

IEEE Membership No: 40073681 Member of SPS: Good standing 2011 CV: attached in pdf format (Website: www.ee.ryerson.ca/~xzhang)

# **EDUCATION:**

Ph. D. in Electronic Engineering, July 1996, Tsinghua University, Beijing.
B.S.E.E., July 1992, Tsinghua University, Beijing.
MBA in Finance, Economics and Entrepreneurship (with Honors), June 2008, The University of Chicago Booth School of Business

## **PROFESSIONAL INTERESTS:**

- Multimedia Signal Processing and Communications
- Image and Video Content Analysis
- Pattern Classification and Statistical Signal Processing
- Signal/Information Processing for Finance, Economics and Marketing
- Wavelets, Filterbanks and Time-Frequency/Time-Scale Analysis
- Bioengineering and Bioinformatics Applications
- E-Commerce Applications

## **Selected Service to IEEE / IEEE SPS:**

Associate Editor, IEEE Signal Processing Letters, 2011-present.

Co-Publication Chair, IEEE Workshop on Multimedia Signal Processing (MMSP2012)

Best Poster Award Committee Co-chair, 2006 IEEE International Conference on Multimedia and Expo (ICME'2006), Toronto, Canada, July 9-12, 2006.

Publicity Co-chair, 2006 IEEE International Conference on Multimedia and Expo (ICME'2006), Toronto, Canada, July 9-12, 2006.

Member, Industry DSP Technology Standing Committee, since 2011

Please see my CV for many services to IEEE conferences TPCs and journal reviews.

## Journal Publications: (please list them in reverse chronological order)

- [1] Sarwer, M.G., Wu, Q.M.J., and **Zhang, Xiao-Ping**, "Enhanced SATD based cost function for mode selection of H.264/AVC Intra Coding," *Springer Journal of Signal, Image and Video Processing*, accepted 2011.
- [2] Wang, X., and **Zhang, Xiao-Ping**, "Ice hockey shooting event modeling with mixture hidden Markov model," *Multimedia Tools and Applications, Special Issue on Events in Multimedia*, online published, In press.
- [3] Wang, X., and **Zhang, Xiao-Ping**, "On optimal look-up table based data hiding," *IET Signal Processing*, vol. 5, no. 2, pp. 171-179, April 2011.
- [4] Beheshti, S., Hashemi, M., Zhang, Xiao-Ping, and Nikvand, N., "Noise invalidation denoising," *IEEE Trans. on Signal Processing*, vol. 58, no. 12, pp. 6007-6016, December 2010.
- [5] Yuan, H., and **Zhang, Xiao-Ping**, "Statistical modeling in the wavelet domain for compact feature extraction and similarity measure of images," *IEEE Trans. on Circuit and Systems for Video Technology*, vol. 20, no. 3, pp. 439-445, March 2010.
- [6] Wang, S.-L., Li, X., Xia, J.-F., and **Zhang, Xiao-Ping**, "Weighted neighborhood classifier for the classification of imbalanced tumor dataset," *Journal of Circuits, Systems, and Computers*, vol. 19, no. 1, pp. 259273, Feb. 2010.
- [7] Wang, F., Zhang, Xiao-Ping, and Ouyang, M., "Does advertising contribute to firm value? The capitalization of brand intangibles," *Journal of the Academy of Marketing Science*, vol. 37, no. 2, pp. 130-143, June 2009.

(The paper addresses an application of signal processing in marketing theory. The number five ranked journal in the marketing research community. Note that quantitative journal ranking is common in business research community.

See http://www.marketingpower.com/Community/ARC/Pages/Research/Journals/Rankings/Bauerlyetal.aspx)

- [8] Zhou, J., and **Zhang, Xiao-Ping**, "An ICA mixture hidden Markov model for video content analysis," *IEEE Trans. on Circuit and Systems for Video Technology, Special Issue on Event Analysis in Videos*, vol. 18, no. 11, pp. 1576-1586, November 2008.
- [9] Wang, F., and **Zhang, Xiao-Ping,** "Reasons for market evolution and budgeting implications," *Journal of Marketing*, vol. 72, no. 5, pp. 15-30, September 2008.

(The paper addresses an application of signal processing in marketing theory. The number one ranked journal in the marketing research community. Note that quantitative journal ranking is common in business research community. Journal of Marketing ranks number one in most rankings. An example can be found in http://www.marketingpower.com/Community/ARC/Pages/Research/Journals/Rankings/Bauerlyetal.aspx)

- [10] Zhang, Xiao-Ping, Li, K., and Wang, X., "A novel look-up table design method for data hiding with near minimum distortion," *IEEE Trans. on Circuit and Systems for Video Technology*, vol. 18, no. 6, pp. 769-776, June 2008.
- [11] Tsui, T., **Zhang, Xiao-Ping**, and Androutsos, D., "Color image watermarking using multidimensional Fourier transforms," *IEEE Trans. on Information Forensics and Security*, vol. 3, no. 1, pp. 13-28, March 2008.
- [12] Wang, Y., and Zhang, Xiao-Ping, "Filter-bank design for multicarrier modulation systems with MPSK based on symbol-error-rate evaluation," *IEE Proceedings - Communications*, vol. 153, no. 6, pp. 919-927, December 2006.
- [13] Yuan, H., and Zhang, Xiao-Ping, "Multiscale fragile watermarking based on the Gaussian mixture model," *IEEE Trans. on Image Processing*, vol. 15, no. 10, pp. 3189-3200, October 2006.
- [14] Zhang, Xiao-Ping, and Chen, Z., "An automated video object extraction system based on spatiotemporal independent component analysis and multiscale segmentation," EURASIP Journal on Applied Signal Processing, Special Issue on Information Mining from Multimedia Databases, vol. 2006, pp.1-22, 2006.
- [15] Ma, L., Zhang, Xiao-Ping, Si, J., Abousleman, G.P., "Bidirectional labeling and registration scheme for grayscale image segmentation," *IEEE Trans. on Image Processing*, vol. 14, no. 12, pp. 2073-2081, December 2005.
- [16] Zhang, Xiao-Ping and Li, K., "Comments on 'An SVD-Based watermarking scheme for protecting rightful ownership'," *IEEE Trans. on Multimedia*. vol. 7, no. 3, pp.593-594, June 2005.
- [17] **Zhang, Xiao-Ping,** "Thresholding neural network for adaptive noise reduction," *IEEE Trans. on Neural Networks*, vol. 12, no. 3, pp. 567-584, May 2001.
- [18] **Zhang, Xiao-Ping,** and Desai, M., "Segmentation of bright targets using wavelets and adaptive thresholding," *IEEE Trans. on Image Processing*, vol. 10, no. 7, pp. 1020-1030, July 2001.
- [19] **Zhang, Xiao-Ping,** et al., "Orthogonal complex filter banks and wavelets: some properties and design," *IEEE Trans. on Signal Processing*, vol. 47, no. 4, pp. 1039-1048, Apr. 1999.
- [20] Zhang, Xiao-Ping, and Desai, M., "Adaptive denoising based on SURE Risk," *IEEE Signal Processing Letters*, vol. 5, no. 10, pp. 265-267, Oct. 1998.
- [21] Zhang, Xiao-Ping, Tian, L.-S. and Peng, Y.-N., "From the wavelet series to the discrete wavelet transform --- the initialization," *IEEE Trans. on Signal Processing*, vol. 44, no. 1, pp. 129-133, Jan. 1996.
- [22] Zhang, Xiao-Ping, Tian, L.-S. and Peng, Y.-N., "Matched filters in time-scale domain and its application in signal detection," ACTA ELECTRONICA SINICA, vol. 24, no. 6, pp. 87-91, June 1996.
- [23] Zhang, Xiao-Ping, Tian, L.-S. and Peng, Y.-N., "From time-frequency distribution to continuous wavelet transform," *Journal of Electronics*, vol. 16, no. 6, pp.631-640, Nov. 1994.

#### **IEEE SPS Journal Publications:**

- Beheshti, S., Hashemi, M., Zhang, Xiao-Ping, and Nikvand, N., "Noise invalidation denoising," IEEE Trans. on Signal Processing, vol. 58, no. 12, pp. 6007-6016, December 2010.
- [2] Tsui, T., **Zhang, Xiao-Ping**, and Androutsos, D., "Color image watermarking using multidimensional Fourier transforms," IEEE Trans. on Information Forensics and Security, vol. 3, no. 1, pp. 13-28, March 2008.
- [3] Yuan, H., and Zhang, Xiao-Ping, "Multiscale fragile watermarking based on the Gaussian mixture model," IEEE Trans. on Image Processing, vol. 15, no. 10, pp. 3189-3200, October 2006.
- [4] Ma, L., Zhang, Xiao-Ping, Si, J., Abousleman, G.P., "Bi-directional gradient labeling and registration for gray-scale image segmentation," IEEE Trans. on Image Processing, vol. 14, no. 12, pp. 2073-2081, December 2005.
- [5] Zhang, Xiao-Ping and Li, K., "Comments on 'An SVD-Based watermarking scheme for protecting rightful ownership'," IEEE Trans. on Multimedia. vol. 7, no. 3, pp.593-594, June 2005.
- [6] **Zhang, Xiao-Ping**, and Desai, M., "Segmentation of bright targets using wavelets and adaptive thresholding," IEEE Trans. on Image Processing, vol. 10, no. 7, pp. 1020-1030, July 2001.
- [7] **Zhang, Xiao-Ping**, et al., "Orthogonal complex filter banks and wavelets: some properties and design," IEEE Trans. on Signal Processing, vol. 47, no. 4, pp. 1039-1048, Apr. 1999.
- [8] **Zhang, Xiao-Ping**, and Desai, M., "Adaptive denoising based on SURE Risk," IEEE Signal Processing Letters, vol. 5, no. 10, pp. 265-267, Oct. 1998.
- [9] **Zhang, Xiao-Ping**, Tian, L.-S. and Peng, Y.-N., "From the wavelet series to the discrete wavelet transform --- the initialization," IEEE Trans. on Signal Processing, vol. 44, no. 1, pp. 129-133, Jan. 1996.

#### **Google Scholar Numbers (google scholar citations - top six papers):**

#### As of 1/17/2012:

Zhang, Xiao-Ping, and Desai, M., "Adaptive denoising based on SURE Risk," IEEE Signal Processing Letters, vol. 5, no. 10, pp. 265-267, Oct. 1998. (Google scholar citations: 126)

Zhang, Xiao-Ping, et al., "Orthogonal complex filter banks and wavelets: some properties and design," IEEE Trans. on Signal Processing, vol. 47, no. 4, pp. 1039-1048, Apr. 1999. (Google scholar citations: 73)

Zhang, Xiao-Ping and Li, K., "Comments on 'An SVD-Based watermarking scheme for protecting rightful ownership'," IEEE Trans. on Multimedia. vol. 7, no. 3, pp.593-594, June 2005. (Google scholar citations: 69)

Zhang, Xiao-Ping, "Thresholding neural network for adaptive noise reduction," IEEE Trans. on Neural Networks, vol. 12, no. 3, pp. 567-584, May 2001. (Google scholar citations: 54)

Zhang, Xiao-Ping, and Desai, M., "Segmentation of bright targets using wavelets and adaptive thresholding," IEEE Trans. on Image Processing, vol. 10, no. 7, pp. 1020-1030, July 2001. (Google scholar citations: 53)

Tsui, T., Zhang, Xiao-Ping, and Androutsos, D, "Color image watermarking using multidimensional Fourier transforms," *IEEE Trans. on Information Forensics and Security*, vol. 3, no. 1, pp. 13-28, March 2008. (Google scholar citations: 44)