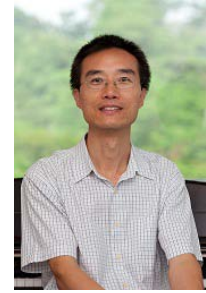<div align="center">

Curriculum Vitae
Ye Wang

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School of Computing
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BIOGRAPHICAL SKETCH

Dr. Ye Wang is a tenured associate professor in the School of Computing at the National University of Singapore. He obtained his BSc in Telecommunications from South China University of Technology in 1983, MSc in Telecommunications from Braunschweig University of Technology in Germany in 1993, and PhD in Information Technology from Tampere University of Technology in Finland in 2002. He was a Member of the Technical Staff at Nokia Research Center in Tampere, Finland (1994 - 2002) before joining NUS in 2002.

Dr. Wang's research has evolved from error robust audio streaming and low power media processing for portable devices to sound and music analysis and retrieval. A significant portion of his research at NUS was exploring perception-aware low-power media processing methods and techniques for battery-powered mobile devices, addressing the fundamental tension between computational workload (and hence power consumption) and user perceived quality of service (QoS). More recently, he has extended his research towards large-scale music information retrieval with applications in healthcare and edutainment. Dr. Wang's research has been consistently published in the top venues in multimedia and music information retrieval including ACM Multimedia (ACM MM), ACM SIG Information Retrieval (SIGIR), Internation Conference on Music Information Retrieval (ISMIR). He has given tutorials on "power management for mobile multimedia" at ACM MM2008 and VLSI2009. Dr. Wang has served as editorial board members of Journal of Multimedia and Journal of New Music Research, as well as on the program committees of top international multimedia conferences regularly. He has co-authored the Best Student Paper at ACM MM2004. His recent work "MOGCLASS: Evaluation of a Collaborative System of Mobile Devices to Support Classroom Music Education for Young Children" has received Honorable Mention Paper Award at CHI2011 (ACM Human Factors in Computing Systems).

Due to Dr. Wang's long-term working experience in industry, there is a large applied component to his research. Along these lines, there are several technologies that he and his team have been developing for eventual real-world deployment. These fall into the categories of edutainment and e-Health. Edutainment is an important research topic, as it seeks to find new ways to apply technology to the education environment in an entertaining format. His efforts in this area have produced the MOGCLASS prototype which has been successfully deployed in three primary schools and the Muscular Dystrophy Association (Singapore) with positive feedback and has started commercial licensing to schools. e-Health seeks to apply web-based and mobile technologies to create new health solutions. Dr. Wang has begun core research in building systems for elderly-care applications that mix mobile computing and domain specific music retrieval. Current projects include 1) MusicalWalk: conceived as a web based system which allows the music therapists to find suitable music pieces to facilitate rhythmic auditory stimulation (RAS)-based gait training for a patient with Parkinson's disease, 2) The Mobile Digital Singing Tutor (MDST) project: conceived as a mobile phone based technology to assist cochlea implant kids with their ear training and singing practice via meaningful feedback; 3) The Mobile Obstructive Sleep Apnea Diagnozer (MOSAD) project: conceived as a mobile application to diagnose Obstructive Sleep Apnea (OSA) based on snore sound analysis.

At NUS, Dr. Wang is sole-PI for over S$900k in grants. Additionally, he is a founding member of the newly established Research Institute for Felicitous Computing at NUS (Founding director: Prof. David S. Rosenblum). He is a Project Principal Investigator at the Centre of Social Media Innovations for Communities or COSMIC (Lead PI: Prof. Bernard Tan) with a total funding of S$10m. Both projects are healthcare related. He has supervised and graduated three PhD students and seven MSc students at NUS. He is currently supervising four PhD and one MSc students. He has played an active role in rendering service to the school/department, particularly in undergraduate and graduate student recruitment efforts, and to the international academic community. During his 9-year academic career at NUS, he has successfully transformed himself from an industrial researcher to an academic and effective teacher. He will spend his sabbatical leave at Fudan University (3 months) and Harvard Medical School (6 months) in the current academic year.

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EDUCATION	**Tampere University of Technology**	Tampere, Finland
	PhD in Information Technology	2002
	Advisor: Petri Haavisto	
	Braunschweig University of Technology	Braunschweig, Germany
	MSc in Telecommunications	1993
	Advisor: Ulrich Reimers	
	South China University of Technology	Guangzhou, China
	BSc in Telecommunications	1983

RESEARCH | □ Mobile computing, sound and music computing, music information retrieval and eHealth

INTERESTS | □ Specific Interests

Domain specific mobile music retrieval and its applications to healthcare

EXPERIENCE	**□ NUS School of Computing (primary appointment)**	Singapore
(ACADEMIC)	Tenured Associate Professor	Since July 2011
	Assistant Professor	2002 - 2011
	□ NUS Graduate School for Integrative Science and Engineering (secondary appointment)	Singapore
	Faculty member	Since April 2010
(INDUSTRY)	**□ Nokia Research Center**	Finland
	Senior Research Engineer	2000 – 2002
	Research Engineer	1994 - 2000

PUBLICATIONS

JOURNALS/PERIODICAL

[J1] Xiaoming Chen, Zhendong Zhao, Ahmad Rahmati, Ye Wang and Lin Zhong, "Sensor-Assisted Video Encoding for Mobile Devices in Real-World Environments," IEEE Transactions on Circuits and Systems for Video Technology, Vol. 21, No. 3, March 2011.

[J2] Ye Wang, "Perception-Aware Low-Power Media Processing for Portable Devices," E-Letter, Vol. 5, No. 4, pp. 14-17, July 2010, Multimedia Communications Technical Committee, IEEE Communications Society (http://www.comsoc.org/~mmc) (**invited paper**)

[J3] Wendong Huang and Ye Wang, "A Joint Encoder-Decoder Framework for Supporting Energy Efficient Audio Decoding," Multimedia Systems, Volume 15, Number 2, pp. 101-112 / April, 2009.

[J4] Wendong Huang and Ye Wang, "An Optimal Speed Control Scheme Supported by Media Servers for Low-Power Multimedia Applications," Multimedia Systems, Volume 15, Number 2, pp. 113-124 / April, 2009.

[J5] Min-Yen Kan, <u>Ye Wang</u>, Denny Iskandar, Tin Lay Nwe, Arun Shenoy, "LyricAlly: Automatic Synchronization of Textual Lyrics to Acoustic Music Signals," the Special Issue on Music Information Retrieval(MIR), IEEE Transactions on Audio, Speech and Language Processing, pp. 338-349, 2008.

[J6] Jia Zhu and <u>Ye Wang</u>, "Complexity-Scalable Beat Detection with MP3 Audio Bitstreams," Computer Music Journal (CMJ), pp. 71-87, January, 2008.

[J7] <u>Ye Wang</u> and Bingjun Zhang, "Application Specific Music Transcription for Tutoring," IEEE MultiMedia, Vol 15, Issue3, July-Sept.2008 Page:70-74.

[J8] Jari Korhonen, Yicheng Huang and <u>Ye Wang</u>, "Generic Forward Error Correction of Short Frames for IP Streaming Applications," Journal of Multimedia Tools and Applications, Vol. 29, No. 3, pp.305-323, June, 2006.

[J9] Arun Shenoy and <u>Ye Wang</u>, "Key, Chord, and Rhythm Tracking of Popular Music Recordings," Computer Music Journal (CMJ), Vol 29, No. 3, pp. 75-86, September, 2005.

[J10] Jari Korhonen, <u>Ye Wang</u> and David Isherwood, "Toward Bandwidth-Efficient and Error- Robust Audio Streaming over Lossy Packet Networks," Multimedia Systems Journal, Vol. 10, No. 5, pp.402-412, August, 2005.

[J11] <u>Ye Wang</u> and Miikka Vilermo, "Modified Discrete Cosine Transform-Its Implications for Audio Coding and Error Concealment," Journal of Audio Engineering Society, Vol 51, No. 1/2, pp. 52-61, January/February, 2003.

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[C2] Yu Yi, Yinsheng Zhou and <u>Ye Wang</u>, "A Tempo-Sensitive Music Serach Engine with Multimodal Inputs," MIRUM 2011, Scottsdale, Arizona, USA.

[C3] Yinsheng Zhou, Graham Percival, Xinxi Wang, <u>Ye Wang</u> and Shengdong Zhao, "MOGCLASS: Evaluation of a Collaborative System of Mobile Devices for Classroom Music Education of Young Children," ACM CHI 2011, 9 -12 May 2011, Vancouver Convention Center, Vancouver, Canada, pp. 523~532 (**Honorable Mention Paper Award of CHI2011**).

[C4] Zhendong Zhao, Xinxi Wang, Qiolaing Xiang, Andy Sarroff, Zhonghua Li and <u>Ye Wang</u>, "Large-scale Music Tag Recommendation with Explicit Multiple Attributes," ACM Multimedia 2010, Florence, Italy, pp. 401-410, 2010.

[C5] Zhonghua Li, Qiaoliang Xiang, Jason Hockman, Jianqing Yang, Yu Yi, Ichiro Fujinaga and <u>Ye Wang</u>, "A Music Search Engine for Therapeutic Gait Training," ACM Multimedia 2010, Florence, Italy, pp. 627-630, 2010.

[C6] Wei Zhao, Xinxi Wang, <u>Ye Wang</u>, "Automated Sleep Quality Measurement using EEG Signal: First Step towards a Domain Specific Music Recommendation System," ACM Multimedia 2010, Florence, Italy, pp. 1079-1082, 2010.

[C7] Yinsheng Zhou, Granham Percival, Xinxi Wang, <u>Ye Wang</u> and Shengdong Zhao, "MOGCLASS: A Collaborative System of Mobile Devices for Classroom Music Education," ACM Multimedia 2010, Florence, Italy, pp. 671-674, 2010.

[C8] Bingjun Zhang, Qiaoliang Xiang, Huanhuan Lu, Jialie Shen and <u>Ye Wang</u>, "Comprehensive Query-dependent Fusion using Regression-on-folksonomies: a Case Study of Multimodal Music Search, " ACM Multimedia, Beijing, China, pp. 213-222, 2009.

[C9] Xiaoming Chen, Zhendong Zhao, Ahmad Rahmati, <u>Ye Wang</u> and Lin Zhong, "SaVE: Sensor-Assisted Motion Estimation for Efficient H.264/AVC Video Encoding," ACM Multimedia, Beijing, China, pp. 381-390, 2009.

[C10] Yinsheng Zhou, Zhonghua Li, Dillion Tan, Graham Percival and <u>Ye Wang</u>, "MOGFUN: Musical mObile Group for FUN, " ACM Multimedia, Beijing, China, pp. 1005-1006, 2009.

[C11] Bingjun Zhang, Qiaoliang Xiang, <u>Ye Wang</u> and Jialie Shen, "CompositeMap: A Novel Music Similarity Measure for Personalized Multimodal Music Search, " ACM Multimedia, Beijing, China, pp. 973-974, 2009.

[C12] Bingjun Zhang, Jialie Shen, Qiaoliang Xiang and <u>Ye Wang</u>, "CompositeMap: A Novel Framework for Music Similarity Measure," SIGIR'09, July 19-23, 2009, Boston, Massachusetts, USA, pp. 403-410.

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[C14] Guangming Hong, Ahmad Rahmati, <u>Ye Wang</u> and Lin Zhong, "SenseCoding: Accelerometer-assisted Motion Estimation for Efficient Video Encoding," ACM Multimedia Conference, October 27-31, 2008, Vancouver, Canada, pp. 749-752.

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[C16] Samarjit Chakraborty and <u>Ye Wang</u>, "Multimedia Power Management on A Platter: from Audio to Video & Games," ACM Multimedia Conference, October 27-31, 2008, Vancouver, Canada, pp. 1165-1166.

[C17] Olaf Schleusing, Bingjun Zhang and <u>Ye Wang</u>," Onset Detection in Piteched Non-Percussive Music Using Warping-Compensated Correlation, " IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP-2008), March 30 - April 4, 2008, Las Vegas, USA, pp. 117-120.

[C18] Chee Chuan Toh, Bingjun Zhang and <u>Ye Wang</u>, "Multiple-Feature Fusion based Onset Detection for Solo Singing Voice," ISMIR, September 14-18, 2008, Philadelphia, Pennsylvania USA, pp. 515-520.

[C19] Yuxiang Liu, <u>Ye Wang</u>, Arun Shenoy, Wei-Ho Tsai, Lianghong Cai, "Clustering Music Recordings by their Keys," ISMIR, September 14-18, 2008, Philadelphia, Pennsylvania USA, pp. 319-324.

[C20] Yicheng Huang, Guangming Hong, Vu An Tran and <u>Ye Wang</u>, "Decoding-workload-aware Video Encoding," ACM 2008 International Workshop on Network and Operating System Support for Digital Audio and Video (NOSSDAV-08), May 28-30, 2008, pp. 45-50.

[C21] Yicheng Huang, Samarjit Chakraborty and <u>Ye Wang</u>, "Watermarking Video Clips with Workload Information for DVS," International Conference on VLSI Design, January 4-8, 2008, pp. 712-717.

[C22] Bingjun Zhang, Jia Zhu, <u>Ye Wang</u>, Wee Kheng Leow, "Visual Analysis of Fingering for Pedagogical Violin Transcription," ACM Multimedia Conference, September 23-29, 2007, Augsburg, Germany, pp. 521 - 524.

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[C24] Yicheng Huang, Vu An Tran and <u>Ye Wang</u>, "A Workload Predication Model for Decoding MPEG Video and its Application to Workload-scalable Transcoding," ACM Multimedia Conference, September 23-29, 2007, Augsburg, Germany, pp. 952 - 961.

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[C26] Graham Percival, <u>Ye Wang</u> and George Tzanetakis, "Effective Use of Multimedia for Computer-Assisted Musical Instrument Tutoring," ACM Workshop on Educational Multimedia and Multimedia Education (EMME-07), September 23-29, 2007, Augsburg, Germany, pp. 67 - 76.

[C27] Tomi Kinnunen, Bingjun Zhang, Jia Zhu, and <u>Ye Wang</u>, "Speaker Verification with Adaptive Spectral Subband Centroids," 2nd International Conference on Biometrics (ICB-07), August 27-29, 2007, Seoul, South Korea, pp. 58-66.

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[C31] Wendong Huang and <u>Ye Wang</u>, "Efficient Partial Spectrum Reconstruction using an Asymmetric PQMF Algorithm for MPEG- Coded Stereo Audio," IEEE International Conference on Multimedia & Expo (ICME-06), July 9-12, 2006, Toronto, Canada, pp. 901-904.

[C32] Alex Loscos, <u>Ye Wang</u>, Wei Jie Jonathan Boo, "Low Level Descriptors for Automatic Violin Transcription," International Conference on Music Information Retrieval (ISMIR-06), October 8-12, 2006, Victoria, Canada.

[C33] Jun Yin, <u>Ye Wang</u> and David Hsu, "Digital Violin Tutor: An Integrated System for Beginning Violin Learners," ACM Multimedia Conference, November 06-11, 2005, Hilton, Singapore, pp. 976 - 985.

[C34] Yicheng Huang, Samarjit Chakraborty and <u>Ye Wang</u>, "Using Offline Bitstream Analysis for Power-Aware Video Decoding in Portable Devices ," ACM Multimedia Conference, November 06-11, 2005, Hilton, Singapore, pp. 299 - 302.

[C35] Wendong Huang, <u>Ye Wang</u> and Samarjit Chakraborty, "Power-Aware Bandwidth and Stereo-Image Scalable Audio Decoding," ACM Multimedia Conference, November 06-11, 2005, Hilton, Singapore, pp. 291 - 294.

[C36] Samarjit Chakraborty, <u>Ye Wang</u> and Wendong Huang, "A Perception-Aware Low-Power Software Audio Decoder for Portable Devices," IEEE Workshop on Embedded Systems for Real-Time Multimedia (ESTIMedia-05), September 22-23, 2005, New York, USA, pp. 13 - 18.

[C37] Jun Yin, Terence Sim, <u>Ye Wang</u> and Arun Shenoy, "Music Transcription Using an Instrumental Model," IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP-05), March 18-23, 2005, Philadelphia, USA.

[C38] Yicheng Huang, Jari Korhonen and <u>Ye Wang</u>, "Optimization of Source and Channel Coding for Voice Over IP," IEEE International Conference on Multimedia & Expo (ICME-05), July 6-8, 2005, Amsterdam, Netherlands.

[C39] Jari Korhonen and <u>Ye Wang</u>, "Power-Efficient Streaming for Mobile Terminals," ACM 2005 International Workshop on Network and Operating System Support for Digital Audio and Video (NOSSDAV-05), June 12-14, 2005, Oregon, USA, pp. 39 - 44.

[C40] Arun Shenoy, Yuansheng Wu and <u>Ye Wang</u>, "Singing Voice Detection for Karaoke Application," Visual Communications and Image Processing (VCIP-05), July 12-15, 2005, Beijing, China, pp. 752-762.

[C41] Wendong Huang and <u>Ye Wang</u>, "A Method for Separating Drum Objects from Polyphonic Musical Signals," IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA-05), October 16-19, 2005, New York, USA, pp. 307 - 310.

[C42] Jari Korhonen and <u>Ye Wang</u>, "Effect of Packet Size on Loss Rate and Delay in Wireless Links," IEEE Wireless Communications and Network Conference (WCNC-05), March 13-17, 2005, Los Angeles, USA, pp. 1608 - 1613.

[C43] <u>Ye Wang</u>, Min - Yen Kan, Tin Lay Nwe, Arun Shenoy, Jun Yin, "LyricAlly: Automatic Synchronization of Acoustic Musical Signals and Textual Lyrics," ACM Multimedia Conference, October 10-16, 2004, New York, USA, pp. 212-219 (**best student award**)

[C44] Tin Lay Nwe, Arun Shenoy and <u>Ye Wang</u>, "Singing Voice Detection in Popular Music," ACM Multimedia Conference, October 10-16, 2004, New York, USA, pp. 324 - 327.

[C45] Jun Yin, Ankur Dhanik, David Hsu and <u>Ye Wang</u>, "The creation of a Music-Driven Digital Violinist," ACM Multimedia Conference, October 10-16, 2004, New York, USA, pp. 476 - 479.

[C46] <u>Ye Wang</u>, Wendong Huang and Jari Korhonen, "A Framework for Robust and Scalable Audio Streaming," ACM Multimedia Conference, October 10-16, 2004, New York, USA, pp. 144 - 151.

[C47] Xi Shao, Changsheng Xu, <u>Ye Wang</u> and Mohan S Kankanhalli, "Automatic Music Summarization in Compressed Domain," IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP-04), May 17-21, 2004, Montreal, Canada, pp. 261 - 264.

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[C49] Mamunu Chinthaka Maddage, Changsheng Xu and <u>Ye Wang</u>, "Singer Identification Based on Vocal and Instrumental Models," International Conference on Pattern Recognition (ICPR-04), August 23-26, 2004, Cambridge, United Kingdom, pp. 375 - 378.

[C50] Tin Lay Nwe and <u>Ye Wang</u>, "Automatic Detection of Vocal Segments in Popular Songs," 5th International Conference on Music Information Retrieval (ISMIR-04), October 10-14, 2004, Barcelona, Spain, pp. 138 - 145.

[C51] <u>Ye Wang</u>, Ali Ahmaniemi, David Isherwood and Wendong Huang, "Content- based UEP: A New Scheme for Packet Loss Recovery in Music Streaming," ACM Multimedia Conference, November 02-08, 2003, Berkley, USA, pp. 412 - 421.

[C52] Lonce Wyse, <u>Ye Wang</u> and Xinglei Zhu, "Application of a Content-Based Percussive Sound Synthesizer to Packet Loss Recovery in Music Streaming," ACM Multimedia Conference, November 02-08, 2003, Berkley, USA, pp. 335 - 338.

[C53] Jari Korhonen and <u>Ye Wang</u>, "Schemes for Error Resilient Streaming of Perceptually Coded Audio," IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP-03), April 06-10, 2003, Hong Kong, China, pp. 165 - 168.

[C54] <u>Ye Wang</u>, Jian Tang, Ali Ahmaniemi and Markus Vaalgamaa, "Parametric Vector Quantization for Coding Percussive Sounds in Music," IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP-03), April 06-10, 2003, Hong Kong, China, and 2003 International Conference on Multimedia and Expo (ICME-03), July 06-09, 2003, Baltimore, USA, pp. 193 - 196.

[C55] Jari Korhonen and <u>Ye Wang</u>, "Schemes for Error-Resilient Streaming of Perceptual Coded Audio," IEEE International Conference on Multimedia and Expo (ICME-03), July 06- 09, 2003, Baltimore, USA, pp. 165 - 168.

[C56] Namunu Chinthaka Maddage, Changsheng Xu and <u>Ye Wang</u>, "A SVM-Based Classification Approach to Musical Audio," International Conference on Music Information Retrieval (ISMIR-03), October 26-30, 2003, Washington D.C., USA.

[C57] Miikka Vilermo, Sebastian Streich, Mauri Väänänen, Karsten Linzmeier, Bernhard Grill, and <u>Ye Wang</u>, "Perceptual Optimization of the Frequency Selective Switch in Scalable Audio Coding," the 114th Audio Engineering Society Convention, March 22-25, 2003, Amsterdam, The Netherlands, preprint 5851.

[C58] <u>Ye Wang</u> and Miikka Vilermo, "The Modified Discrete Cosine Transform: Its Implications for Audio Coding and Error Concealment," the 113th Audio Engineering Society Convention, October 05-08, 2002, LosAngeles, USA, pp. 52-61.

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[C62] <u>Ye Wang</u>, Leonid Yaroslavsky, Miikka Vilermo and Mauri Väänänen, "Restructred Audio Encoder for Improved Computational Efficiency," the 108th Audio Engineering Society Convention, February 19-22, 2000, Paris, France, preprint 5103.

[C63] <u>Ye Wang</u>, Miikka Vilermo and Leonid Yaroslavsky, "Energy Compaction Property of the MDCT in Comparison with Other Transforms," the 109th Audio Engineering Society Convention, September 22-25, 2000, Los Angeles, USA, preprint 5178.

[C64] Leonid Yaroslavsky and <u>Ye Wang</u>, "DFT, DCT, MDCT, DST and Signal Fourier Spectrum Analysis," European Signal Processing Conference (EUSIPCO 2000), September 04-08, 2000 Tampere, Finland, pp. 1065-1068.

[C65] <u>Ye Wang</u>, Leonid Yaroslavsky and Miikka Vilermo, "On the Relationship Between MDCT, SDFT and DFT," 5th International Conference on Signal Processing (ICSP 2000), August 21-25, 2000, Beijing, China, pp. 44-47.

[C66] <u>Ye Wang</u>, Leonid Yaroslavsky, Miikka Vilermo and Mauri Väänänen, "Some Peculiar Properties of the MDCT," 5th International Conference on Signal Processing (ICSP 2000), August 21-25, 2000, Beijing, China, pp. 61-64.

[C67] <u>Ye Wang</u> and Miikka Vilermo, "Exploiting Excess Masking for Audio Compression ," 17th Audio Engineering Conference, September 3-5, 1999, Florence, Italy.

TECHNICAL REPORT

[T1] Bingjun Zhang and <u>Ye Wang</u>, "Automatic Music Transcription using Audio-Visual Fusion for Violin Practice in Home Environment," Technical Report, School of Computing, National University of Singapore, 2009.

<u>PATENTS</u>

GRANTED PATENTS

[P1] <u>Ye Wang</u>, US patent number: 7,069,208 "System and method for concealment of data loss in digital audio transmission"

[P2] <u>Ye Wang</u> and Miikka Vilermo, US patent number: 7,050,980 "System and method for compressed domain beat detection in audio bitstreams"

[P3] <u>Ye Wang</u>, Juha Ojanpera and Jari Korhonen, US patent number: 6,985,856 "Method and device for compressed-domain packet loss concealment"

[P4] <u>Ye Wang</u> and Miikka Vilermo, US patent number: 6,934,676 "Method and system for inter-channel signal redundancy removal in perceptual audio coding"

[P5] <u>Ye Wang</u>, Samarjit Chakraborty, Wendong Huang, "Perception-Aware Low-Power Audio Decoder for Portable Devices," Granted in Singapore, Pending in US, Europe, Japan, Korea and China (has been licensed to industry)

PENDING PATENTS

[PP1] <u>Ye Wang</u>, Samarjit Chakraborty, Yicheng Huang, "Using Offline Bitstream Analysis for Power-Aware Video Decoding in Portable Devices," Patent prosecution ongoing in Europe, US, Japan (has been licensed to industry)

[PP2] <u>Ye Wang</u>, Samarjit Chakraborty, Wendong Huang, "Power-Aware Bandwidth and Stereo-Image Scalable Audio Decoding," Patent prosecution ongoing in Europe, US, Japan, Korea, China, (has been licensed to industry)

[PP3] <u>Ye Wang</u>, Lin Zhong, Guangming Hong and Ahmad Rahmati, "Accelerometer-Assisted Motion Estimation for Efficient Video Encoding," Filed regular application in the US jointly by Rice University and National University of Singapore

<u>GRANTS (SOLE-PI ONLY)</u>

CURRENT GRANTS:

1) "Sensor-Based Gait Analysis: A First Step Towards a RAS Gait Training System", 09/2011 – 08/2014, $118,200 from Ministry of Education (MOE);
2) "Automatic Music Playlist Generation for Treating Insomnia of the Elderly", 08/2010 – 07/2012, $20,000 from the Ministry of Community Development, Youth and Sport (MCYS);
3) "Music Information Retrieval to Assist Gait Training for People with Parkinson's Disease", 02/2010 – 01/2012, $28,600 from the Ministry of Education (MOE);
4) "Multimodal Mobile Music Retrieval (M3R): Developing a Prototype System", 04/2009 – 03/2012, $56,000 from the Ministry of Education (MOE);

PREVIOUS GRANTS:

5) "MagicMirror – A Learning Companion for Singing", 04/2008 – 03/2011, $68,000 from the Ministry of Education (MOE);
6) "Mobile Music Education System", 08/2008 – 07/2009, $16,556 from Nokia Research Center (NRC);
7) "The Creation of an Interactive Digital Violin Tutor (iDVT)", 08/2006 -01/2009, $108,200 from the Ministry of Education (MOE);
8) "Perception-aware Low-power Media Processing for Portable Devices", 11/2005 – 04/2009, $230,000 from the Ministry of Education (MOE);
9) "Magic Musical Notation", 08/2007 – 07/2008, $35,000 from NUS Deputy President of Research and Technology ;
10) "Creation of a Virtual Violin Player", 04/2004 – 03/2007, $140,000 which is an interfaculty research grant;
11) "Content-based Audio Processing and Delivery", 08/2003 – 01/2006, $63,180 from the Ministry of Education (MOE);
12) "Error Robust Delivery of Digital Audio Content over Error Prone Channels", 04/2003 – 2/2005, $23,500 which is the startup grant.

PhD THESIS SUPERVISED

□ Bingjun Zhang, (PhD, 2011)
Title: "Adaptive Multimodal Fusion Based Similarity Measures in Music Information Retrieval"

□ Wendong Huang, (PhD, 2009)
Title: "Perception-Aware Low-Power Audio Processing Techniques For Portable Devices"

□ Yicheng Huang, (PhD, 2009)
Title: "Workload Model for Video Decoding and Its Applications"

MSc THESIS SUPERVISED

□ Zhendong Zhao, (MSc, 2011)
Title: "Large Scale Music Information Retrieval by Semantic Tags"
□ Wei Zhao, (MSc, 2011)
Title: "Utilizing EEG Signal in Music Information Retrieval"
□ Huanhuan Lu, (MSc, 2009)
Co-supervised with Assoc. Prof. Leow Wee Kheng,
Title: "Computer Assisted Music Instrument Tutoring Applied in Violin Practice"
□ Jia Zhu, (MSc, 2008)
Title: "Complexity Scalable Beat Detection with MP3 Audio Bitstreams"
□ Denny Iskandar, (MSc, 2007)
Title: "Refining Music Signal To Lyric Text Synchronization From Line-Level To Syllable-Level By Constraining Dynamic Time Warping Search"
□ Arun Shenoy Kota, (MSc, 2004)
Title: "Music Content Analysis: Key, Chord And Rhythm Tracking In Acoustic Signals"
□ Xinglei Zhu, (MSc, 2004)
Co-supervised with Assoc. Prof. Lonce Wyse,
Title: "Applications Of Analysis And Synthesis Techniques For Complex Sounds"

CURRENT STUDENTS

□ Yinsheng Zhou, (PhD, Quals Passed Sem I AY2009/10, expected 2012)
□ Zhonghua Li, (PhD, Quals Passed Sem II AY2009/10, expected 2012)
□ Xinxi Wang, (PhD, Quals Passed Sem II AY2010/11, expected 2014)
□ Lian He, (PhD, Quals Passed Sem II AY2010/11, expected 2014)
□ Yu Yi, (MSc, expected 2012)

TEACHING

Year	Sem	Course	Student evaluations (personal)	Student evaluations (department's mean)
10/11	2	CS4347 Sound and Music Computing	4	4.058
10/11	1	CS3220 Computer Architecture	3.158	3.815
09/10	2	CS5249 Audio in Multimedia Systems	5	4.12
09/10	1	CS4348 Interactive Systems Projects	4.125	3.806
08/09	2	IT2001 Network Technology and Applications	3.5	4.071
08/09	1	CS5249 Audio in Multimedia Systems	4.25	4.422
07/08	2	IT2001 Network Technology and Applications	4.273	3.818
07/08	2	CS5249 Audio in Multimedia Systems	4	3.979
06/07	2	IT2001 Network Technology and Applications	4.182	3.746
06/07	1	CS5249 Audio in Multimedia Systems	4.308	4.141
05/06	2	IT2001 Network Technology and Applications	4.174	3.98
05/06	1	CS5249 Audio in Multimedia Systems	4.375	4.176
04/05	2	IT2001 Network Technology and Applications	4.139	3.836
04/05	1	CS6212 Topics in Media	4.436	3.755
03/04	2	CS3242 Hypermedia Technologies	3.444	3.852
03/04	1	CS6212 Topics in Media	4.25	3.773
02/03	2	CS3242 Hypermedia Technologies	3.686	3.766

SERVICE

□ Service to the university:

- Visited 15 top universities in China and 2 top universities in Taiwan, and presented our graduate program in order to attract talented students to the NUS School of Computing (SoC).
- Actively contributed to organizing all three annual SoC-China Research Workshops since 2008 by chairing sessions and hosting visiting professors from China.
- Organization committee member of the first SoC-Vietnam Research Workshop (March 5-6, 2009).
- Talks to junior college students in Singapore and served as a mentor of 6 pre-university students in the MOE SM2 program.
- Regular presentations of research prototypes at annual NUS Open House and SoC Open House.

□ Service to the international academic community:

1) Editorial board member, Journal of Multimedia (since 2009)
2) Editorial board member, Journal of New Music Research (Since 2011)
3) TPC member
   TPC member for ACM MM in 2006, 2008, 2009, 2010 (where I serve as Meta TPC member), 2011
   TPC member for ICME in 2004, 2006, 2007
4) Reviewer
   ACM Transactions on Multimedia Computing, Communications and Applications (TOMCCAP)
   IEEE Transactions on Multimedia
   IEEE Transaction on Audio, Speech, And Language processing
   IEEE Signal Processing Letters
   Computer Music Journal
   Journal of New Music Research
   ISMIR in 2007, 2008, 2009, 2010
5) Conference organization
   Co-Chair of ACM Multimedia 2005 Doctoral Symposium