

The Chinese University of Hong Kong
Shun Hing Institute of Advanced Engineering
List of Publications Arising from SHIAE Supported Projects
(Batch 2005)

Project code	Publication	
BME - 8115001	[1]	“Speech Processing Strategy Incorporating Tonal Information for Chinese Cochlear Implantees”, Expert Meeting 2007: A Cochlear Implant System for China, held in Prince of Wales Hosptial, The Chinese University of Hong Kong, May 4-5, 2007 . (Invited Talk)
	[2]	“An integrated-and-fire based auditory nerve model and its response to high-rate pulse train,” Neurocomputing, vol. 70 (4-6), pp.1051-1055, Jan. 2007 .
	[3]	“Loudness normalization for cochlear implant using pulse-rate modulation to convey Mandarin tonal information: A model-based study,” in Proc. 28th Ann. Int. Conf. IEEE-EMBS, New York, 2006 , pp.1236-1239.
	[4]	“A novel temporal fine structure based speech synthesis model for cochlear implant,” submitted to international journal.
	[5]	“A new acoustic model incorporating temporal fine structure cue for cochlear implant,” in Proc. Int. Conf. Info. Tech. Appl. in Biomed., Greece, 2006 .
	[6]	“Frequency-specific fine structure cues from Mandarin for designing electrical stimulation strategy of cochlear implant,” in Proc. World Cong. on Med. Phy. and Biomed. Eng., Seoul, 2006 , pp. 5068.
	[7]	“Zerocrossing-based representation of the temporal fine structure: Towards improving the tone identification for cochlear implantees,” in Proc. BME 2006 Biomed. Eng. Conf., Hong Kong, 2006 , pp.89-92.
BME - 8115002	[1]	C. Y. Tang, W. Chin, Y. P. Chui, W. Poon and P. A. Heng, “A Virtual Reality-based Surgical Simulation for Virtual Neuroendoscopy,” in Proceedings of IEEE International Conference on Integration Technology (IEEE ICIT 2007), pp. 253 – 258, March 20-24 , Shenzhen, China.
	[2]	D. Wang, L. Shi, D. S. Yeung, C. C. Tsang and P. A. Heng, “Ellipsoidal Support Vector Clustering for Functional MRI Analysis,” Pattern Recognition, Vol. 40 (2007) pp. 2685 – 2695.
	[3]	D. Wang, L. Shi and P. A. Heng, “Radial Thickness Calculation and Visualization for Volumetric Layers,” in Proceedings of Open Source and Open Data for MICCAI, a MICCAI 2007 Workshop, pp. 24 – 31, Nov 2, 2007 , Brisbane Australia.
	[4]	D. Wang, L. Shi and P. A. Heng, “Simultaneous Alignment and Landmark Labelling of Shapes by Minimizing the Description Length,” International Journal of Computer Assisted Radiology and Surgery, (Proceedings of CARS 2007) Vol. 2- Supplement 1, pp. S118 – S119, June 27-30, 2007 , Berlin, Germany.
	[5]	D. Wang, L. Shi and P. A. Heng, “The Ellipsoidal Harmonic Representation and Its application in Shape Analysis of 3D Anatomical Structures,” International Journal of Computer Assisted Radiology and Surgery, (Proceedings of CARS 2007) Vol. 2- Supplement 1, pp. S464, June 27-30, 2007 , Berlin, Germany.
	[6]	G. Luo and P. A. Heng, “LV Shape and Motion: B-Spline Based Deformable Model and Sequential Motion Decomposition,” IEEE Transactions on Information Technology in Biomedicine, Vol. 9, No. 3, pp. 430 – 446, September 2005 . (IF = 1.575)

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[7]	J. Guo, S. Li, Y. P. Chui, Q. Meng, H. Zhang, C. H. Yu and P. A. Heng, “PPU-based Deformable Models for Catheterisation Training,” to appear in Proceedings of Computational Biomechanics for Medicine II, a MICCAI 2007 Workshop, Oct 29, 2007 , Brisbane, Australia.
[8]	J Qin, P. A. Heng, K. S. Choi and Simon S. Z. Ho, “An Adaptive Framework using Cluster-based Hybrid Architecture for Enhancing Collaboration in Surgical Simulation,” in proceedings of MMVR 15 (Medicine Meets Virtual Reality 2007), pp. 367 – 372, Feb 6 – 9, 2007 , Long Beach, California, USA.
[9]	J. Qin, W. M. Pang, Y. P. Chui, Y. M. Xie, T. T. Wong, W. S. Poon, K. S. Lueng, and P. A. Heng, “Hardware-accelerated Bleeding Simulation for Virtual Surgery,” to appear in Proceedings of Computational Biomechanics for Medicine II, a MICCAI 2007 Workshop, Oct 29, 2007 , Brisbane, Australia.
[10]	J. Xie and P. A. Heng, “Shape Modeling Using Automatic Landmarking,” in Proceedings of Medical Image Computing and Computer-Assisted Intervention MICCAI 2005, LNCS 3750, pp. 709 – 716, Palm Spring, CA, USA, Oct 26 – 29 2005 .
[11]	J. Xie and P. A. Heng, “Color Image Diffusion Using Adaptive Bilateral Filter,” in Proceedings of 27th Annual International Conference of the IEEE Engineering In Medicine and Biology Society (EMBS), Shanghai, September 1-4, 2005 .
[12]	J. Xie, Y. Jiang, H. T. Tsui and P. A. Heng, “Boundary Enhancement and Speckle Reduction for Ultrasound Images via Salient Structure Extraction,” IEEE Transactions on Biomedical Engineering, Vol. 53, No. 11, November 2006 , pp. 2300-2309.
[13]	K. L. Chong, S. W. Tang, J. Qin, Y. P. Chui and P. A. Heng, “ECiSS: A Middleware Based Development Framework for Enhancing Collaboration in Surgical Simulation,” in Proceedings of IEEE International Conference on Integration Technology (IEEE ICIT 2007), pp. 15 – 20, March 20-24 , Shenzhen, China.
[14]	L. Shi, D. Wang, P. A. Heng and T. T. Wong, “Outlier Reduction for Statistical Shape Analysis,” International Journal of Computer Assisted Radiology and Surgery, (Proceedings of CARS 2007) Vol. 2- Supplement 1, pp. S119 – S120, June 27-30, 2007 , Berlin, Germany.
[15]	L. Shi, P. A. Heng and T. T. Wong, “Detecting Brain Activation in Functional MRI Data via Kernelized Clustering,” in Proceedings of the 12th International Conference on Biomedical Engineering (ICBME 2005), December 7 – 10, 2005 , Singapore.
[16]	L. Shi, D. Wang, P. A. Heng, T. T. Wong, C. W. Chu, H. Y. Yeung and C. Y. Cheng, “Landmark Correspondence Optimization for Coupled Surfaces,” in Proceedings of MICCAI 2007, pp. 818 – 825, Oct 29 – Nov 2 , Brisbane, Australia.
[17]	L. Shi, D. Wang, P. A. Heng, T. T. Wong, W. C. W. Chu, B. H. Y. Yeung and J. C. Y. Cheng, “Skull Shape Analysis in Adolescent Idiopathic Scoliosis Patients,” International Journal of Computer Assisted Radiology and Surgery, (Proceedings of CARS 2007) Vol. 2- Supplement 1, pp. S480, June 27-30, 2007 , Berlin, Germany.
[18]	L. Shi, P. A. Heng, T. T. Wong, C. W. Chu, H. Y. Yeung and C. Y. Cheng, “Morphometric Analysis for Pathological Abnormality Detection in the Calvariums of Adolescent Idiopathic Scoliosis Patients,” in proceedings of MICCAI 2006, LNCS 4190, pp. 175 – 182, Oct 1 – 6, Copenhagen, 2006 .

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[19]	P. A. Heng, "Imaging Technologies for Orthopaedic Visualization and Simulation," Advanced Bioimaging Technologies in Assessment of Quality of Bone and Scaffold Biomaterials, pp. 51 – 64, edited by L. Qin, H. Genant, J. Griffith and K. S. Leung, published by Springer
[20]	P. A. Heng, "Research and Applications of Virtual Medicine," accepted by 27th Annual International Conference of the IEEE Engineering In Medicine and Biology Society (EMBS), Shanghai, September 1-4, 2005 .
[21]	P. A. Heng, C. Y. Cheng, T. T. Wong, W. Wu, Y. S. Xu, Y. M. Xie, Y. P. Chui, K. M. Chan and K. S. Leung, "Virtual Reality Techniques: Application to Anatomical Visualization and Orthopaedics Training", Clinical Orthopaedics and Related Research, Vol. 442, pp. 13-20, January 2006 . (IF = 1.403)
[22]	P. A. Heng, T. T. Wong, K. M. Leung, Y. P. Chui and H. Sun, "A Haptic Needle Manipulation Simulator for Chinese Acupuncture Learning and Training," International Journal of Image and Graphics, Vol. 6, No. 2, pp. 205 – 230, April 2006 .
[23]	P. A. Heng, T. T. Wong, R. Yang, Y. M. Xie, Y. P. Chui, K. S. Leung and P. C. Leung, " Intelligent Inferencing and Haptic Simulation for Chinese Acupuncture Learning and Training," IEEE Transactions on Information Technology in Biomedicine, Vol. 10, No. 1, pp. 28 - 41, January 2006 .
[24]	P. A. Heng, S. X. Zhang, Y. M. Xie, L. Shi, T. T. Wong and Y. P. Chui, "Visible Human based Virtual Medicine," The International Journal of Virtual Reality, Vol. 5, No. 4, pp. 13-20, December 2006 .
[25]	P. A. Heng, S. X. Zhang, Y. M. Xie, T. T. Wong, Y. P. Chui, and C. Y. Cheng, "Deploying Chinese Visible Human Data on Anatomical Exploration: From Western Medicine to Chinese Acupuncture," Complex Medical Engineering, pp. 351 – 360, edited by J. L. Wu, K. Ito, S. Tobimatsu, T. Nishida and H. Fukuyama, Springer Publisher, 2007 .
[26]	P. A. Heng, S. X. Zhang, Y. M. Xie, T. T. Wong, Y. P. Chui, C. Y. Cheng, "Photorealistic Virtual Anatomy Based on Chinese Visible Human Data," Clinical Anatomy, Vol. 19, No. 3, pp. 232-239, April 2006 .
[27]	P. A. Heng, Y. Xie, X. Wang, Y. P. Chui and T. T. Wong, "Virtual Acupuncture Human based on Chinese Visible Human Dataset," in Proceedings of Medicine Meets Virtual Reality 14 Conference, Long Beach, CA, USA, Jan 24 – 27, 2006 .
[28]	Q. Chen, J. Luo, P. A. Heng and D. Xia, "Fast and Active Texture Segmentation based on Orientation and Local Variance," Journal of Visual Communication & Image Representation, Vol. 18 (2007) 119 – 129.
[29]	Q. Chen, Z. Zhou, M. Tang, P. A. Heng and D. Xia, "Shape Statistics Variational Approach for the Outer Contour Segmentation of Left Ventricle MR Images," IEEE Transactions on Information Technology in Biomedicine, Vol. 10, No. 3, pp. 588 – 597, July 2006 .
[30]	W. Y. Chan, P. W. Chow, T. W. Yew, Y. P. Chui and P. A. Heng, "An Automatic Annotation Tool for Virtual Anatomy," in Proceedings of IEEE International Conference on Integration Technology (IEEE ICIT 2007), pp. 269 – 274, March 20-24 , Shenzhen, China.
[31]	Y. M. Xie, P. A. Heng, G. Y. Wang and T. T. Wong, "GPU-Friendly Marching Cubes for Visualizing Translucent Isosurfaces," in proceedings of MMVR 15 (Medicine Meets Virtual Reality 2007), pp. 500 – 502, Feb 6 – 9, 2007 , Long Beach, California, USA.

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	[32] Y. Qu, P. A. Heng and T. T. Wong, "Image Segmentation Using the Level Set Method," Deformable Models: Theory and Biomaterial Applications, pp. 95 – 122, edited by Jasjit S. Suri and Aly Farag, Springer Publisher, 2007 .
	[33] Y. Qu, P. A. Heng, T. T. Wong, "Semi-automatic Segmentation and Tracking of CVH Data," in Proceedings of Medicine Meets Virtual Reality 14 Conference, Long Beach, CA, USA, Jan 24 – 27, 2006 .
BME - 8115003	[1] Minglin Li, Yanli Qu, Zaili Dong, Yuechao Wang, and Wen J. Li, "Limitations of Au Particle Nano-Assembly using Dielectrophoretic Force- A Parametric Experimental and Theoretical Study", accepted, IEEE Transactions on Nanotechnology (Letter), November 2007 .
	[2] Leung, Gong Wai; Lau, Fong Ting; Leung, Siu Ling; Li, Wen J.; "Formation of Au Colloidal Crystals for Optical Sensing by DEP-Based Nano-Assembly", 2nd IEEE Int. Conf. on Nano/Micro Engineered and Molecular Systems, 2007, IEEE-NEMS 2007, Jan. 2007 Pp. 922 –
	[3] Mandy LY Sin, Gary CT Chow, Gary MK Wong, Wen J Li, Philip HW Leong, Ka Wai Wong, "Ultra-Low-Power Alcohol Vapor Sensors using Chemically Functionalized Multi-Walled Carbon Nanotubes," IEEE Transactions on Nanotechnology, May 01, 2007 .
	[4] Mandy L. Y. Sin, Gary C. T. Chow, Carmen K. M. Fung, Wen J. Li, Philip Leong, K. W. Wong, and Terry Lee , "Ultra-Low-Power Alcohol Vapor Sensors Based on Multi-Walled Carbon Nanotube ," 1st IEEE Int. Conf. on Nano/Micro Engineered and Molecular Systems, IEEE-NEMS 2006 , January 2006 .
	[5] Steve Tung, Husein Rokadia, and Wen J. Li, "A Micro Shear Stress Sensor Based on Laterally Aligned Carbon Nanotubes," Sensors and Actuators A: Physical, June 15, 2006 .
	[6] Mandy L. Y. Sin, Gary C. T. Chow, M. K. Wong , Wen J. Li, Philip Leong, K. W. Wong, and Terry Lee, "Chemically Functionalized Multi-Walled Carbon Nanotube Sensors for Ultra-Low-Power Alcohol Vapor Detection ," IEEE-NANO 2006, July 16, 2006 .
MMT - 8115004	[1] "Detecting Cheaters for Multi-player Games: Theory, Design and Implementation". Second IEEE International Workshop on Networking Issues in Multimedia Entertainment (NIME '06). Las Vegas, USA, January, 2006 . (An extended version has been accepted by the International Journal of Network Security).
	[2] "The Design and Analysis of the Secure Multimedia Library". Accepted for publication in the ACM Multimedia Systems Journal.
	[3] "COPACC: An Architecture of Cooperative Proxy-Client Caching System for On-Demand Media Streaming".IEEE Transaction on Parallel and Distributed Systems, 18(1), 70-83, January, 2007 .
	[4] "A Revenue-Rewarding Scheme For Cooperative Proxy Media Streaming Systems". Accepted for publication in the ACM Transactions on Multimedia Computing, Communications and Applications.
MMT - 8115005	[1] CUHK at Image CLEF 2005: "Cross-Language and Cross-Media Image Retrieval", S. C. H. Hoi, J. Zhu and M.R. Lyu (2006). In Proceedings of Cross Language Evaluation Forum (CLEF), Lecture Notes of Computer Science (LNCS 4022), pp.602-611, 2006 .
	[2] "Large-Scale Text Categorization by Batch Mode Active Learning", S. C.H. Hoi, R. Jin and M.R. Lyu, in Proceedings 15th International World Wide Web conference (WWW2006), Edinburgh, UK, 2006 .

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	[3] "Batch Mode Active Learning and Its application to Medical Image Classification", S. C. H. Hoi, R. Jin, J. Zhu and M.R. Lyu, in Proceedings the 23rd International Conference on Machine Learning (ICML2006), Pittsburgh, Penn, US, June 25-29, 2006 .
	[4] "A Multimodal and Multilevel Ranking Framework for Content-Based Video Retrieval" S.C.H. Hoi and M.R. Lyu, in Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Special Session of Web Image and Video Search Technologies, 2007 .
	[5] "Learning the Unified Kernel Machines for Classification," S. C. H. Hoi, M.R. Lyu, and E. Y. Chang, in Proceedings of The Twelfth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD2006), Philadelphia, USA, August 20 - 23, 2006 .
	[6] "Collaborative Image Retrieval via Regularized Metric Learning", L. Si, R. Jin, S. C.H. Hoi and M.R. Lyu, ACM Multimedia Systems Journal, pp.34-44, 2006 .
	[7] "Integrating User Feedback Log into Relevance Feedback by Coupled SVM for Content-Based Image Retrieval", S.C.H. Hoi, M.R. Lyu and R. Jin, in Proceedings IEEE International EMMA Workshop in conjunction with 21st ICDE Conference, Tokyo, Japan, April 2005 , pp. 76-
	[8] "A Unified Log-based Relevance Feedback Scheme for Image Retrieval", S. C.H. Hoi, M.R. Lyu, and R. Jin, IEEE Trans. on Knowledge and Data Engineering, vol. 18, no.4, pp.509-524, 2006 .
	[9] "Time-Dependent Semantic Similarity Measure of Queries Using Historical Click-Through Data", Q. Zhao, S. C. H. Hoi, T.-Y. Liu, S. S., Bhowmick, M.R. Lyu and W.-Y. Ma, in Proceedings 15th International World Wide Web conference (WWW2006), Edinburgh, UK, 2006 .
	[10] "A Semi-Supervised Active Learning Framework for Image Retrieval", S.C.H. Hoi and M.R. Lyu, in Proceedings IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR 2005), San Diego, CA, USA, June 20-25, 2005 , pp. 302-309.
	[11] "Learning Distance Functions from Contextual Constraints for Image Retrieval and Data Clustering", Steven C.H. Hoi, W. Liu, M. R. Lyu, Wei-Ying Ma, Proc. IEEE Conference on Computer Vision and Pattern Recognition (CVPR2006), New York, 17-22 June, 2006 .
	[12] "Learning Non-Parametric Kernel Matrices from Pairwise Constraints," S. C.H. Hoi, R. Jin and M.R. Lyu, in Proceedings of the 24th Annual International Conference on Machine Learning (ICML 2007), OR, US, 20-24 June 2007 .
	[13] "An Empirical Study on Large-Scale Content-Based Image Retrieval", Y.-M. Wong, S. C.-H. Hoi, and M.R. Lyu, in Proceedings of IEEE International Conference on Multimedia and Expo (ICME 2007), Beijing, China, 2-5 July 2007 .
	[14] "ART: Augmented Reality Table for Interactive Trading Card Game", A. H. T. Lam, K. C. H. Chow, E. H. H. Yau, and M.R. Lyu, ACM International Conference on Virtual Reality Continuum and Its Applications (VRCIA 2006), Hong Kong, 14-17 June, 2006 .
MMT - 8115006	[1] Chan, S.K., Xie, L. and Meng, H., "Modeling the Statistical Behavior of Lexical Chains to Capture Word Cohesiveness for Automatic Story Segmentation," Proceedings of Interspeech, 2007 .
	[2] Li, D., Lo, W.K. and Meng, H., "Initial Experiments on Automatic Story Segmentation in Chinese Spoken Documents using Lexical Cohesion of Extracted Named Entities", Lecture Notes in Computer Science, Vol. 4274, pp.693-703, 2006 .

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[3]	Liu, C., Xie, L. and Meng, H., "Classification of Music and Speech in Mandarin News Broadcasts," Proceedings of the National Conference on Man-Machine Speech Communication, 2007 .
[4]	Xie, L., Meng, H. and Liu, Z.Q., "A Cantonese Speech-Driven Talking Face using Translingual Audio-to-Visual Conversion," Lecture Notes in Computer Science, Vol. 4274, pp.627-639, 2006 .
[5]	Xie, L., Liu, C. and Meng, H., "Combined Use of Speaker- and Tone-Normalized Pitch Reset with Pause Duration for Automatic Story Segmentation in Mandarin Broadcast News," Proceedings of the North American Association for Computational Linguistics, Human Language Technologies Conference, 2007 .
[6]	Xie, L., Liu, C. and Meng, H., "Discovering Salient Prosodic Cues for Automatic Story Segmentation for Mandarin Chinese Broadcast News," journal manuscript, forthcoming.
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