HE MA, Ph.D.

Current Appointment

Associate Professor
Sino-Dutch Biomedical and Information School
Northeastern University
P.R. China

Contact Information

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Positions and Employment

2015.9 – present	National University of Singapore (Suzhou) Research Institute Guest Investigator
2014.11 – present	Sino-Dutch Biomedical and Information Engineering School, Northeastern University Associate Professor
2013.8 –2014.11	National University of Singapore (Suzhou) Research Institute Research Fellow
2012.8 - 2013.7	The Centre of Social Media Innovations for Communities (COSMIC), National University of Singapore Research Assistant

Educational Background

2008.8 - 2013.12	School of Computing, National University of Singapore PhD. (Majored in Computer Science)
2004.9 - 2008.7	College of Information Science and Engineering, Northeastern University, China Bachelor of Engineering (Majored in Computer Science and Technology) **In honor class Rank: top 5 in the college**

Research interests

Radiomics on Lung Cancer
Big Data Analysis on Breast Cancer
Remote Medicine System
Media Streaming Strategy
Spatial-Temporal Data Management
Mobile Application Development

Course Teaching

Embedded System Technology (Undergraduate Student)
Design Centered Learning (Tutor, Undergraduate Student)
Network Interconnection and Internet Technology (Master Student)
Academic English Writing (Foreign Master Student, taught in English)

Other Experience and Professional Memberships

Member of Chinese Society and Biomedical Engineering
Reviewer of National Natural Science Foundation of China
Reviewer of IEEE Journal of Biomedical and Health Informatics, IEEE International Conference on Multimedia and Expo, PLOS ONE and *etc.*

Honors

Second Prize, Teaching Achievement Award of Northeastern University, 2017
Second Prize, Teaching Achievement Award of Northeastern University, 2016

Publications

[1] Guohui Wei, Weihui Cao, He Ma, Shouliang Qi, Wei Qian, and Zhiqing Ma. Content-based image retrieval for Lung Nodule Classification Using Texture Features and Learned Distance Metric, Journal of Medical Systems, 2018(42:13).

[2] He Huang，He Ma*，Han JW van Triest，Yinghua Wei，Wei Qian，Automatic Detection of Neovascularization in Retinal Images using Extreme Learning Machine，Neurocomputing, 2018,277, pp 218-227.

[3] Guohui Wei, **He Ma***, Wei Qian, Fangfang Han, Hongyang Jiang, Shouliang Qi, and Min Qiu. Lung nodule classification using local kernel regression models with out-of-sample extension, Biomedical Signal Processing & Control, 2018, Volume 40, pp 1-9.

[4] Hongyang Jiang, He Ma*, Wei Qian, Mengdi Gao, and Yan Li. An Automatic Detection System of Lung Nodule Based on Multi-Group Patch-Based Deep Learning Network, IEEE Journal of Biomedical and Health Informatics, 2017, pp(99):1-1.

[5] Dongbo Liu, He Ma*, Jianghua Li, Error Distribution Modeling of Embedded Sensors on Smartphones by Using Laser Ranger, IEEE International Conference on Multimedia & Expo (ICME), 2017, pp 387-392.

[6] Guohui Wei, He Ma*, Wei Qian, Hongyang Jiang, Xinzhuo Zhao， Content-based retrieval for lung nodule diagnosis using learned distance metric, International Conference of the IEEE Engineering in Medicine and Biology Society, 2017, pp 3910-3913.

[7] Hongyang Jiang, He Ma*, Wei Qian, Guohui Wei, Xinzhuo Zhao, Mengdi Gao, A Novel Pixel Value Space Statistics Map of the Pulmonary Nodule for Classification in Computerized Tomography Images, International Conference of the IEEE Engineering in Medicine and Biology Society, 2017, pp 556-559.

[8] Nan Bao, Chengyang Wu, Qiancheng Liang, Lisheng Xu, Guozhi Li, Ziyu Qi, Wanyi Zhang, He Ma, and Yan Li. The Intelligent Monitoring for the Elderly Based on WiFi Signals, in the proceedings of the Pacific-Rim Conference on Multimedia (PCM) 2017.

[9] Guohui Wei，He Ma*，Wei Qian，Shouliang Qi，Hongyang Jiang，A Content-based Image Retrieval Scheme for Lung Nodule Classification，Current Medical Imaging Reviews，2017, 13(2): 210-216.

[10] Jikui Liu, Hongyang Jiang, Mengdi Gao, Chenguang He, Yu Wang, Pu Wang, He Ma*, Ye Li*. An Assisted Diagnosis System for Detection of Early Pulmonary Nodule in Computed Tomography Images. Journal of Medical Systems, 2017, 41(2): 30.

[11] Kassimu Juma，He Ma，Yue Zhao，Lung Cancer Detection and Analysis Using Data Mining Techniques, Principal Component Analysis and Artificial Neural Network， American Scientific Research Journal for Engineering, Technology & Sciences，2017.

[12] Hongyang Jiang，He Ma*，Mengdi Gao，Using high resolution computed tomography images to assess the risks of pathological change of pulmonary parenchyma，Computed Tomography: Advances in Research and Applications, Nova Science Publishers，2017.03.10. (Book Chapter)

[13] Guohui Wei, He Ma*, Wei Qian, Xinzhuo Zhao, A content-based image retrieval scheme for identifying lung nodule malignancy levels, 29th Chinese Control and Decision Conference (CCDC), 2017, pp 3127-3130.

[14] Fangfang Han, Bowen Song, He Ma, Wei Qian, and Zhengrong Liang, Risk Prediction of Small Pulmonary Nodules Based on Novel CT Image Texture Markers. In SPIE Medical Imaging (pp. 101343Q-101343Q), 2017.

[15] Yu-Ling Hsueh, He Ma*, Chia-Chun Lin, Roger Zimmermann, An efficient approach to finding potential products continuously. Information Systems, 65, pp.22-35, 2017.

[16] Guohui Wei, He Ma*, Wei Qian, Min Qiu. Similarity measurement of lung masses for medical image retrieval using kernel based semisupervised distance metric. Medical Physics, 2016, 43(12): 6259-6269.

[17] Hongyang Jiang，He Ma*，Wei Qian，Guohui Wei，Risk Analysis for Pathological Changes in Pulmonary Parenchyma Based on Lung Computed Tomography Images，Journal of Computer Assisted Tomography, 2016, 40(3): 357-363.

[18] He Ma，Tiantian Zhao，Jinghan Li，Wei Qian，Abandoned Object Detection Based on Tachograph Videos，International Computer Symposium (ICS 2016)，National Chung Cheng University，2016.12.15-2016.12.17.

[19] Hongyang Jiang, Fen Miao, Mengdi Gao, Xi Hong, Qingyun He, He Ma, Ye Li. A Novel Indicator for Cuff-Less Blood Pressure Estimation Based on Photoplethysmography. International Conference on Health Information Science. Springer International Publishing, 2016: 119-128.

[20] Zhiqiong Wang，Chen Zhang，Tianshu Wang，Jinhui Zhang，Yang Cui，He Ma，Yan Kang，Mammography Compression in Narrow band Transmission Environment，International Conference on Artificial Intelligence: Technologies and Applications，2016.1.24-2016.1.25.

[21] Luming Zhang，Yingjie Xia，Kuang Mao，He Ma，Zhenyu Shan，An Effective Video Summarization Framework Toward Handheld Devices，IEEE Transactions on Industrial Electronics，2015，62(2)：1309-1316.

[22] He Ma，Yue Zhao，Guohui Wei，Xiaoyu Cui，Double-Bounding R-tree: A Novel Approach to Index Digital Camera's Viewable Scene，4th International Conference on Computer, Mechatronics, Control and Electronic Engineering，2015.9.28-2015.9.29.

[23] XiaoYu Cui，Heting Wang，Yue Zhao，He Ma，Kahbin Lim，A new matrix decomposition method for estimating the position of prism based stereovision，4th International Conference on Computer, Mechatronics, Control and Electronic Engineering (ICCMCEE)，2015.9.28-2015.9.29.

[24] He Ma，Sakire Arslan Ay, Roger Zimmermann，Seon Ho Kim，Large-scale geo-tagged video indexing and queries，GeoInformatica，2014，18(4)：671-697.

[25] He Ma，Beomjoo Seo，Roger Zimmermann，Dynamic Scheduling on Video Transcoding for MPEG DASH in the Cloud Environment，ACM Multimedia Systems Conference，2014.3.19-2014.3.21.

[26] He Ma，Roger Zimmermann，Video Transcode Scheduling for MPEG-DASH in Cloud Environments，Cloud Computing and Digital Media: Fundamentals, Techniques, and Applications, Kuan-Ching Li; Qing Li; Timothy K. Shih, CRC Press, Taylor & Francis

Group, pp 103-125, USA, 2013.11.1. (Book Chapter)

[27] Ying Zhang，He Ma，Roger Zimmermann，Dynamic Multi-Video Summarization of Sensor-rich Videos in Geo-Space，International Conference on Multimedia Modeling，2013.1.7-2013.1.9.

[28] He Ma，Roger Zimmermann，Seon Ho Kim，HUGVid: Handling, Indexing and Querying of Uncertain Geo-tagged Videos，ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems，2012.11.6-2012.11.9.

[29] He Ma，Sakire Arslan Ay，Seon Ho Kim，Roger Zimmermann，A Grid-based Index and Queries for Large-scale Geo-tagged Video Collections，Workshop on Spatial Information Modeling, Management and Mining，2012.4.15-2012.4.18.

[30] He Ma, Sakire Arslan Ay, Roger Zimmermann, Seon Ho Kim, Metadata Organization and Query Optimization for Large-scale Geo-tagged Video Collections, NUS/SoC Technical Report TR10/11, National University of Singapore, 2011.10.

[31] Sakire Arslan Ay，Lingyan Zhang，Seon Ho Kim，He Ma，Roger Zimmermann，GRVS: A Georeferenced Video Search Engine International Conference on Multimedia，Beijing，2009.10.19-2009.10.23.

Projects

[1] National Natural Science Foundation of China, Grant No. 61702087, A Study on Quantitive Therapy Assessment and Prognosis of Central Lung Cancer based on Radiomics, 2018/01-2020/12、RMB 210,000, PI.

[2] The Fundamental Research Funds for the Central Universities, Grand No. N171904008, A Study on Quantitive Therapy Assessment and Prognosis of Bone Metastasis of Lung Cancer based on Radiomics, 2018/01-2019/12、RMB 120,000, PI.

[3] The Fundamental Research Funds for the Central Universities, Grand No. N172008008, A Study on the model of Diagnosis and Treatment in Precision Medicine based on Big Data Analysis, 2018/01-2020/12、RMB 1,000,000, Co-PI (RMB 80,000).

[4] The Bureau of Science and Technology of Liaoning Province, Grant No. 201501146, A Study on the Application of Interactive Collaborative Diagnosis in Remote Medicine, 2016/01-2017/12, RMB 30,000, PI.

[5] The Fundamental Research Funds for the Central Universities, Grand No. N151903002, A Study on Real-time Interactive Data Transmission Strategy for Medical Data,

2016/01-2017/12, RMB 150,000, PI.

[6] The Fundamental Research Funds for the Central Universities, Grand No. N150408001, Big Data Analysis on Medical and Healthy Data, 2016/01-2018/12, RMB 1,500,000, Co-PI (RMB 225,000).

[7] The Fundamental Research Funds for the Central Universities, Grand No. L1519001, A Study on Big-Data based Sincere Disease Analysis and Personalized Treatment Strategy Generation, 2015/09-2015/12, RMB 400,000, PI.