

Wang Hao

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Research Interests

1. Medical imaging: Medical image classification, lesion detection and segmentation.
2. Surgical data science: Surgical instruments' behavior recognition during surgery.
3. Cloud service recommendation: Service recommendation for healthcare services

Education

1. M.E and Ph.D. in Management Science and Engineering, School of Management, Hefei University of Technology, China, 2016.9 -.
2. B.S. in Software engineering, School of Software, Hefei University of Technology, China, 2012.9 - 2016.6.

Papers & Publications

1. **Wang Hao**, Ding Shuai, Wu Desheng, Zhang Youtao, Yang Shanlin, "Smart connected electronic gastroscope system for gastric cancer screening using multi-column convolutional neural networks", *International Journal of Production Research*; 7543 (2018) 1–12. (SCI)
2. **Wang Hao**, Ding Shuai, Tu Jun, Yang Shanlin, Zhang Youtao, Zhang Yanchun, "Automatic meniscus tear detection based on MRI using deep learning and spatial consistency" *IEEE Transactions on Systems, Man, And Cybernetics: Systems* (SCI) (Minor Revision)
3. Ding Shuai, **Wang Hao**, Li Yeqing, Zhang Yanchun, Zhang Youtao, "A diversity-enhanced hierarchical physician recommendation approach" *IEEE Transactions on Knowledge and Data Engineering* (SCI) (Under review)
4. Ding Shuai, **Wang Hao**, Yang Shanlin, Wu Desheng, "Data-driven smart healthcare systems: a survey of approaches and applications" *Decision Support Systems* (SCI) (Under review)
5. Zhou Tianwei, Ding Shuai, Fan Wenjuan, and **Wang Hao**. 2016. "An Improved Public Goods Game Model with Reputation Effect on the Spatial Lattices." *Chaos, Solitons and Fractals* 93: 130–35. (SCI)
6. Li Wei, Ding Shuai, Chen Yi, **Wang Hao**, Yang Shanlin (2018). Transfer learning-based default prediction model for consumer credit in China. *The Journal of Supercomputing*, 1-23. (SCI)
7. Yue Zijie, Ding Shuai, Zhao Weidong, **Wang Hao**, Ma Jie, Zhang Youtao, Zhang Yanchun, "Automatic CIN grades prediction of sequential cervigram image using LSTM with multistate CNN features" *IEEE Journal of Biomedical and Health Informatics*, DOI: 10.1109/JBHI.2019.2922682 (SCI)
8. Ding Shuai, Li Ling, Li Zhenmin, **Wang Hao**, Zhang Yanchun, (2019) "Smart Electronic Gastroscope System Using a Cloud-edge Collaborative Framework" *Future Generation Computer Systems*, 100, 395-407 (SCI)

Patents

1. Ding Shuai, **Wang Hao**, Yang Shanlin, Fan Wenjuan. A task scheduling system and method for mobile medical treatment. *Chinese patent*: CN106502798B, 2018
2. Ding Shuai, **Wang Hao**, Yang Shanlin, Fan Wenjuan, Sun Xiao; Intelligent processing method and device for gastroscopy image. Chinese patent:CN107230198, 2018
3. Ding Shuai, Hu Shikang, Yang Shanlin, Sun Xiao, Fan Wenjuan, **Wang Hao**. The construction method, device and auxiliary diagnosis method of medical knowledge map. *Chinese patent*:CN107145744B, 2018
4. Ding Shuai, Niu Feng, Yang Shanlin, Sun Xiao, Fan Wenjuan, Hu Shikang, **Wang Hao**. Overlapping community detection methods and systems based on similarity between nodes in social networks. *Chinese patent*: CN107153713B, 2018 (Authorized)
5. Yang Shanlin, Ding Shuai, Fan Wenjuan, **Wang Hao**, et al. Task scheduling system and method suitable for mobile health, [P] U.S. Patent Application No. 15/809,993, 2018.
6. Ding Shuai, Yang Shanlin, Sun Xiao, Hu Shikang, **Wang Hao**, Method and device for constructing medical knowledge graph and assistant diagnosis method, [P] U.S. Patent Application No. 15/972,121, 2018.
7. Ding Shuai, Yang Shanlin, Liu Xinbao, Fan Wenjuan, Niu Feng, **Wang Hao**, Method and system for detecting overlapping communities based on similarity between nodes in social network, [P] U.S. Patent Application No. 15/892,279, 2018.
8. Ding Shuai, **Wang Hao**, Yang Shanlin, Fan Wenjuan, Sun Xiao. Intelligent analysis method and system for endoscope image. *Chinese patent*: CN107203995A, 2018 (Substantive examination)
9. Ding Shuai, **Wang Hao**, Yang Shanlin, Sun Xiao, Yue Zijie, Wang Jiaxin, Method and device for medical image analysis of multi-column neural network, *Chinese patent*: CN108053025A, 2018 (Substantive examination)
10. Ding Shuai, Yang Shanlin, Sun Xiao, **Wang Hao**, Yue Zijie, Pan Jinxin. Gastroscopy image aided processing system and method based on Integrated Learning. *Chinese patent*: CN107564580A, 2018 (Substantive examination)
11. Ding Shuai, Li Ling, Yang Shanlin, **Wang Hao**, Construction method and device of medical knowledge map. *Chinese patent*: CN108492887A, 2018 (Substantive examination)
12. Ding Shuai, Yue Zijie, Yang Shanlin, **Wang Hao**, Zhao Lei. Hardware architecture and image processing method of medical endoscope artificial intelligence system. *Chinese patent* : CN108024061A,2018 (Substantive examination)
13. Ding Shuai, Yue Zijie, Yang Shanlin, **Wang Hao**, Zhao Lei. Hardware architecture and image processing method of medical endoscope artificial intelligence system. *Chinese patent*: CN108055454A, 2018 (Substantive examination)
14. Ding Shuai, Yue Zijie, Yang Shanlin, Wan Zeyuan, **Wang Hao**, Zhao Lei. Medical endoscope system with artificial intelligence chip and image processing method. *Chinese patent*: CN108042090A, 2018 (Substantive examination)

Projects

1. From January 2016 to now, National Natural Science Foundation of China, Research on cloud service recommendation method based on dynamic trust modeling in social network environment, 71571058;
2. From January 2019 to now, National Natural Science Foundation of China, Research on the panoramic intelligent decision-making method based on multi-mode cross-border fusion in intelligent medical situation, 91846107
3. From June 2016 to now, Anhui Provincial Science and Technology Major Project, intelligent minimally invasive diagnosis and treatment and training system based on hybrid cloud platform, 16030801121;
4. From July 2017 to now, Anhui Provincial Science and Technology Major Project, research and integration demonstration of medical minimally invasive multidisciplinary service platform based on artificial intelligence, 17030801001;

Conferences

International Conference on Data-driven Smart/Green Manufacturing, Hefei, China, July 2017

Awards

1. National Encouragement Scholarship by China's Ministry of education, September 2015
2. Merit Student by Hefei University Technology, September 2015
3. First-class scholarship by Hefei University Technology, September 2015
4. The MediaTek enterprise scholarship by MediaTek Inc, October 2015

Internship

1. Developer of web services, Zoom Video Communications, Inc. 2015.9-2016.5
I built and tested the client user interface for a face tracking system on the web services.
2. Developer of intelligent conversation services and IOS client, Hefei DVL Electron Co.,Ltd. 2016.6-2017.8
I build the image classification engine on the server with Caffe and build the user interface on the IOS client, it enables our server to communicate with the user who only sending the image.

Competences

1. Java: Java web (Server) and Android (TensorFlow Lite)
2. Python: Scientific computing (NumPy and TensorFlow) and User interfaces (QT5)
3. Objective-C: Core ML 2 and User interfaces