Yang Hu

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Education

* **University of Science and Technology of China (USTC)**
  Ph.D., Electronic Engineering and Information Science (Sept. 2004 - June 2009)
  Dissertation: Maximum Margin Methods and Their Applications in Image Retrieval

* **University of Science and Technology of China (USTC)**
  B.E., Electronic Engineering and Information Science (Sept. 2000 - June 2004)

Research Interest

* Wireless Sensing

* Multimodal Sensing

* Computer Vision

Selected Honors and Awards

* IEEE MMSP Best Paper Award Runner-Up, 2022

* PCM Best Student Paper Award, 2017

* MMM Best Paper Award, 2007

* Microsoft Fellowship, 2007

Working Experience

School of Information Science and Technology, University of Science and Technology of China

* *Associate Professor*, Aug. 2020 - now

School of Information and Communication Engineering, University of Electronic Science and Technology of China

* *Associate Professor*, July 2019 - July 2020

School of Information and Communication Engineering, University of Electronic Science and Technology of China

* *Associate Researcher*, Sept. 2015 - June 2019

Institute for Advanced Computer Studies, University of Maryland, College Park

* *Research Associate*, Feb. 2010 - July 2015

Microsoft Research Asia, Beijing, China

* *Research Intern*, Aug. 2005 - Jan. 2009

Selected Publications

1 Jiarui Zhang, Ruixu Geng, Xiaolong Du, Yan Chen, Houqiang Li, **Yang Hu**, Passive Non-Line-of-Sight Imaging With Light Transport Modulation. IEEE Transaction on Image Processing, vol. 34, pp. 410-424, 2025

2 Bin-Bin Zhang, Dongheng Zhang, Yadong Li, Zhi Lu, Jinbo Chen, Haoyu Wang, Fang Zhou, Yu Pu, **Yang Hu**, Li-Kun Ma, Qibin Sun, Yan Chen, Monitoring Long-term Cardiac Activity with Contactless Radio Frequency Signals, Nature Communications, 2024

3 Ruiyuan Song, Zhi Lu, Dongheng Zhang, Liang Fang, Zhi Wu, **Yang Hu**, Qibin Sun, Yan Chen, Unleashing the Potential of Self-Supervised RF Learning with Group Shuffle, IEEE Transactions on Mobile Computing, 2024

4 Yadong Li, Dongheng Zhang, Ruixu Geng, Jincheng Wu, **Yang Hu**, Qibin Sun, Yan Chen, IFNet: Deep Imaging and Focusing for Handheld SAR with Millimeter-wave Signals, IEEE Transactions on Mobile Computing, 2024

5 Ruixu Geng, Yadong Li, Dongheng Zhang, Jincheng Wu, Yating Gao, **Yang Hu**, Yan Chen, DREAM-PCD: Deep Reconstruction and Enhancement of mmWave Radar Pointcloud, IEEE Transaction on Image Processing, vol. 33, pp. 6774-6789, 2024

6 Jiamu Li, Dongheng Zhang, Zhi Wu, Cong Yu, Yadong Li, Qi Chen, **Yang Hu**, Qibin Sun, Yan Chen, SBRF: A Fine-Grained Radar Signal Generator for Human Sensing, IEEE Transactions on Mobile Computing, vol. 23, no. 12, pp. 13114-13130, 2024

7 Shuai Yang, Dongheng Zhang, Yadong Li, **Yang Hu**, Qibin Sun, Yan Chen: iSense: Enabling Radar Sensing Under Mutual Device Interference. IEEE Transactions on Mobile Computing, vol.23, no.11, pp. 10554-10569, 2024

8 Xuecheng Xie, Dongheng Zhang, Yadong Li, **Yang Hu**, Qibin Sun, Yan Chen, Robust WiFi Respiration Sensing in the Presence of Interfering Individual. IEEE Transactions on Mobile Computing, vol. 23,no. 8, pp. 8447-8462, 2024

9 Wenxuan Li, Dongheng Zhang, Yadong Li, Ruiyuan Song, **Yang Hu**, Qibin Sun, Yan Chen, SCL-Fall: Reliable Fall Detection Using mmWave Radar with Supervised Contrastive Learning, IEEE Journal of Selected Areas in Sensors, vol. 1, pp. 237 - 248, 2024

10 Qian Liang, Yan Chen, **Yang Hu**, Continual Learning for Remote Physiological Measurement: Minimize Forgetting and Simplify Inference, ECCV, 2024

11 Jianyang Wang, Dongheng Zhang, Binbin Zhang, Jinbo Chen, **Yang Hu**, Yan Chen, RF-GymCare: Introducing Respiratory Prior for RF Sensing in Gym Environments, Proc. ACM Interact. Mob. Wearable Ubiquitous Technol. (IMWUT), 2024

12 Zhi Wu, Dongheng Zhang, Zixin Shang, Yuqin Yuan, Hanqin Gong, Binquan Wang, Zhi Lu, Yadong Li, **Yang Hu**, Qibin Sun, Yan Chen, Learning-Based Tracking-before-Detect for RF-Based Unconstrained Indoor Human Tracking, IJCAI, 2024

13 Liang Fang, Ruiyuan Song, Zhi Lu, Dongheng Zhang, **Yang Hu**, Qibin Sun, Yan Chen, PRISM: Pretraining RF Signals in Sparsity-aware Masked Autoencoders, INFOCOM, 2024

14 Zhi Lu, **Yang Hu**, Cong Yu, Yunchao Jiang, Yan Chen, Bing Zeng: Personalized Fashion Recommendation With Discrete Content-Based Tensor Factorization, IEEE Transaction on Multimedia, vol.25, pp. 5053-5064, 2023

15 Zhi Lu, **Yang Hu**, Cong Yu, Yan Chen, Bing Zeng: Learning Fashion Compatibility with Context Conditioning Embedding, IEEE Transaction on Multimedia, vol.25, pp. 5516-5526, 2023

16 Tianyu Zhang, Dongheng Zhang, Guanzhong Wang, Yadong Li, **Yang Hu**, Qibin Sun, Yan Chen, RLoc: Towards Robust Indoor Localization by Quantifying Uncertainty, Proc. ACM Interact. Mob. Wearable Ubiquitous Technol. (IMWUT), 2023

17 Cong Yu, Dongheng Zhang, Zhi Wu, Chunyang Xie, Zhi Lu, **Yang Hu**, Yan Chen, MobiRFPose: Portable RF-Based 3D Human Pose Camera, IEEE Transactions on Multimedia, 2023

18 Chunyang Xie, Dongheng Zhang, Zhi Wu, Cong Yu, **Yang Hu**, Yan Chen, RPM 2.0: RF-based Pose Machines for Multi-Person 3D Pose Estimation, IEEE Transactions on Circuits and Systems for Video Technology, 2023

19 Chunyang Xie, Dongheng Zhang, Zhi Wu, Cong Yu, **Yang Hu**, Yan Chen, RPM: RF-based Pose Machines, IEEE Transactions on Multimedia, 2023

20 Bin-Bin Zhang, Dongheng Zhang, Yadong Li, **Yang Hu**, Yan Chen, Unsupervised Domain Adaptation for RF-based Gesture Recognition, IEEE Internet of Things Journal, vol. 10, no. 23, pp. 21026-21038, 2023

21 Yadong Li, Dongheng Zhang, Jinbo Chen, Jinwei Wan, Dong Zhang, **Yang Hu**, Qibin Sun, Yan Chen, Towards Domain-Independent and Real-Time Gesture Recognition Using mmWave Signal, IEEE Transactions on Mobile Computing, vol.22, no. 12, pp. 7355-7369, 2023

22 Cong Yu, Dongheng Zhang, Zhi Wu, **Yang Hu**, Yan Chen, RFPose-OT: RF-Based 3D Human Pose Estimation Using Optimal Transport, Frontiers of Information Technology and Electronic Engineering, vol. 24, pp. 10, pp.1445-1457, 2023

23 Zhi Wu, Dongheng Zhang, Chunyang Xie, Cong Yu, Jinbo Chen, **Yang Hu**, Yan Chen, RFMask: A Simple Baseline for Human Silhouette Segmentation with Radio Signals, IEEE Transactions on Multimedia, vol. 25, pp. 4730-4741, 2023

24 Cong Yu, Zhi Wu, Dongheng Zhang, Zhi Lu, **Yang Hu**, Yan Chen, RFGAN: RF-Based Human Synthesis, IEEE Transactions on Multimedia, vol. 25, pp. 2926-2938, 2023

25 Chengrun Qiu, Dongheng Zhang, **Yang Hu**, Houqiang Li, Qibin Sun, Yan Chen, Radio-Assisted Human Detection, IEEE Transactions on Multimedia, vol. 25, pp. 2613-2623, 2023

26 Binbin Zhang, Dongheng Zhang, Ruiyuan Song, Binquan Wang, **Yang Hu**, Yan Chen, RF-Search: Searching Unconscious Victim in Smoke Scenes with RF-enabled Drone, MOBICOM, 2023

27 Chunyang Xie, Dongheng Zhang, **Yang Hu**, Yan Chen, Hierarchical Dynamic Programming Module for Human Pose Refinement, IEEE Transactions on Circuits and Systems for Video Technology, vol.32, no.9, pp. 6214-6226, 2022

28 Ruixu Geng, **Yang Hu**, Zhi Lu, Cong Yu, Houqiang Li, Heng-Yu Zhang, Yan Chen, Passive Non-Line-of-Sight Imaging Using Optimal Transport, IEEE Transaction on Image Processing, vol.31, pp. 110-124, 2022

29 Ruiyuan Song, Dongheng Zhang, Zhi Wu, Cong Yu, Chunyang Xie, Shuai Yang, **Yang Hu**, Yan Chen, RF-URL: unsupervised representation learning for RF sensing, MOBICOM, 2022

30 Dongheng Zhang, **Yang Hu**, Yan Chen, MTrack: Tracking Multi-Person Moving Trajectories and Vital Signs with Radio Signals, IEEE Internet of Things Journal, vol. 8, no. 5, pp. 3904-3914, 2021

31 Yan Chen, Hongyu Deng, Dongheng Zhang, **Yang Hu**, SpeedNet: Indoor Speed Estimation with Radio Signals, IEEE Internet of Things Journal, vol. 8, no. 4, pp. 2762-2774, 2021

32 Zhi Lu, **Yang Hu**, Yan Chen, Bing Zeng, Personalized Outfit Recommendation with Learnable Anchors, CVPR, 2021

33 Yan Chen, Xiang Su, **Yang Hu**, Bing Zeng, Residual Carrier Frequency Offset Estimation and Compensation for Commodity WiFi, IEEE Transactions on Mobile Computing, vol. 19, no. 12, pp. 2891-2902, 2020

34 Ying He, Yan Chen, **Yang Hu**, and Bing Zeng, WiFi Vision: Sensing, Recognition, and Detection With Commodity MIMO-OFDM WiFi, IEEE Internet of Things Journal, vol. 7, no. 9, pp. 8296-8317, 2020

35 Dongheng Zhang, **Yang Hu**, Yan Chen, Bing Zeng, Calibrating Phase Offsets for Commodity WiFi, IEEE Systems Journal, vol. 14, no.1, pp. 661-664, 2020

36 Chengrun Qiu, **Yang Hu**, Yan Chen, Bing Zeng, Deep Deterministic Policy Gradient (DDPG) based Energy Harvesting Wireless Communications, IEEE Internet of Things Journal, vol. 6, no. 5, pp. 8577-8588, 2019

37 Chaofan He, **Yang Hu**, Yan Chen, Bing Zeng, Joint Power Allocation and Channel Assignment for NOMA with Deep Reinforcement Learning, IEEE Journal on Selected Areas in Communications, vol. 37, no. 10, pp. 2200-2210, 2019

38 **Yang Hu**, Xuerui Li, Yan Chen, Bing Zeng, Multi-Principal Multi-Agent Contract Design: Theory and Application to Device-to-Device Communications, IEEE Transactions on Vehicular Technology, vol. 68, no. 3, pp. 2535-2544, 2019

39 Dongheng Zhang, **Yang Hu**, Yan Chen, Bing Zeng, BreathTrack: Tracking Indoor Human Breath Status via Commodity WiFi, IEEE Internet of Things Journal, vol.6, no.2, pp.3899-3911, 2019

40 Zhi Lu, **Yang Hu**, Yunchao Jiang, Yan Chen, Bing Zeng, Learning Binary Code for Personalized Fashion Recommendation, CVPR 2019

41 Cong Yu, **Yang Hu**, Yan Chen, Bing Zeng, Personalized Fashion Design, ICCV, 2019

42 **Yang Hu**, Chengrun Qiu, Yan Chen, Lyapunov Optimized Two-Way Relay Networks with Stochastic Energy Harvesting, IEEE Trans. Wireless Communicationsvol. 17, no. 9, pp. 6280-6292, 2018

43 Dongheng Zhang, Ying He, Xinyu Gong, **Yang Hu**, Yan Chen, Bing Zeng, Multitarget AOA Estimation Using Wideband LFMCW Signal and Two Receiver Antennas, IEEE Transactions on Vehicular Technology, vol. 67, no. 8, pp. 7101-7112, 2018

44 Chengrun Qiu, **Yang Hu**, and Yan Chen, Bing Zeng, Lyapunov Optimization for Energy Harvesting Wireless Sensor Communications, IEEE Internet of Things Journal, vol. 5, no. 3, pp. 1947-1956, 2018

45 Chengrun Qiu, **Yang Hu**, and Yan Chen, Lyapunov Optimized Cooperative Communications with Stochastic Energy Harvesting Relay, IEEE Internet of Things Journal, vol. 5, no. 2, pp. 1323-1333, 2018

46 Zhi Lu, **Yang Hu**, Bing Zeng, Sampling for Approximate Maximum Search in Factorized Tensor, IJCAI, 2017