Weitao XU  
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Biography
I'm an Assistant Professor at the Department of Computer Science at City University of Hong Kong. Before that, I worked as a Postdoctoral Research Associate at the School of Computer Science and Engineering (CSE) at UNSW Australia from June 2017 to August 2019. I obtained my PhD degree from the University of Queensland in 2017 (advised by Prof. Neil Bergmann and Dr. Wen Hu). I received my B.E. degree in Communication Engineering and M.E. degree in Communication and Information System (advised by Prof. Dongfeng Yuan) both from the School of Information Science and Engineering, Shandong University (SDU), China, in 2010 and 2013, respectively.

Employment
Department of Computer Science  
City University of Hong Kong  
16 Aug 2019 → present

Research outputs
Occlusion-Resistant instance segmentation of piglets in farrowing pens using center clustering network  
Huang, E., Mao, A., Hou, J., Wu, Y., Xu, W., Ceballos, M. C., Parsons, T. D., & 1 othersLiu, K., Jul 2023, In: Computers and Electronics in Agriculture. 210, 107950.

基於擾動壓縮感知的通信方法和裝置  
XU, W. & YANG, H., 25 May 2023, (Accepted/In press/Filed) Priority No. 202310604945.3

一種在線簽名認證方法、裝置、計算機設備及存儲介質  
HAN, M. & XU, W., 23 May 2023, (Accepted/In press/Filed) Priority No. 202310585269.X

ChirpKey: A Chirp-level Information-based Key Generation Scheme for LoRa Networks via Perturbed Compressed Sensing  
Yang, H., Sun, Z., Liu, Z., Xia, X., Zhang, Y., Gu, T., Hancke, G., & 1 othersXu, W., May 2023. 10 p.

Demo Abstract: A Novel Firmware Update Over-The-Air System for LoRa Networks  
Sun, Z., Ni, T., Yang, H., Liu, K., Zhang, Y., Gu, T. & Xu, W., May 2023, IPSN ’23: Proceedings of the 22nd International Conference on Information Processing in Sensor Networks. ACM, p. 362–363

FLoRa: Energy-Efficient, Reliable, and Beamforming-Assisted Over-The-Air Firmware Update in LoRa Networks  
Sun, Z., Ni, T., Yang, H., Liu, K., Zhang, Y., Gu, T. & Xu, W., May 2023, IPSN ’23: Proceedings of the 22nd International Conference on Information Processing in Sensor Networks. ACM, p. 14–26

Emma: An accurate, efficient, and multi-modality strategy for autonomous vehicle angle prediction  
Song, K., Ni, T., Song, L. & Xu, W., Mar 2023, In: Intelligent and Converged Networks. 4, 1, p. 41-49 9 p.

IoTSL: Towards Efficient Distributed Learning for Resource-constrained Internet of Things  
Feng, X., Luo, C., Chen, J., Huang, Y., Zhang, J., Xu, W., Li, J., & 1 othersLeung, V. C. M., 10 Jan 2023, (Online published) In: IEEE Internet of Things Journal.
EMGSense: A Low-Effort Self-Supervised Domain Adaptation Framework for EMG Sensing
Duan, D., Yang, H., Lan, G., Li, T., Jia, X. & Xu, W., 2023, 2023 IEEE International Conference on Pervasive Computing and Communications (PerCom). IEEE, p. 160-170 11 p. (IEEE International Conference on Pervasive Computing and Communications (PerCom)).

Uncovering User Interactions on Smartphones via Contactless Wireless Charging Side Channels
Ni, T., Zhang, X., Zuo, C., Li, J., Yan, Z., Wang, W., Xu, W., & 2 othersLuo, X. & Zhao, Q., 2023, Proceedings of 44th IEEE Symposium on Security and Privacy, SP 2023. IEEE, p. 3399-3415 17 p.

WashRing: An Energy-Efficient and Highly Accurate Handwashing Monitoring System Via Smart Ring
Xu, W., Yang, H., Chen, J., Luo, C., Zhang, J., Zhao, Y. & Li, W. J., 7 Dec 2022, (Online published) In: IEEE Transactions on Mobile Computing.

PrivGait: An Energy-Harvesting-Based Privacy-Preserving User-Identification System by Gait Analysis
Xu, W., Xue, W., Lin, Q., Lan, G., Feng, X., Wei, B., Luo, C., & 2 othersLi, W. & Zomaya, A. Y., 15 Nov 2022, In: IEEE Internet of Things Journal. 9, 22, p. 22048-22060Scopus citations: 2

Eavesdropping Mobile App Activity via Radio-Frequency Energy Harvesting
Ni, T., Lan, G., Wang, J., Zhao, Q. & Xu, W., 8 Nov 2022, (Online published) 32nd USENIX Security Symposium. USENIX Association, 18 p.

Recent Advances in LoRa: A Comprehensive Survey
SUN, Z., YANG, H., LIU, K., YIN, Z., LI, Z. & XU, W., Nov 2022, In: ACM Transactions on Sensor Networks. 18, 4, 67. Scopus citations: 8

一種密鑰生成方法、裝置、計算機設備及存儲介質
XU, W. & YANG, H., 16 Sept 2022, (Accepted/In press/Filed) Priority No. 202211126540.5

SwipePass: Acoustic-based Second-factor User Authentication for Smartphones
CHEN, Y., NI, T., XU, W. & GU, T., 7 Sept 2022, In: Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies. 6, 3, 108.Scopus citations: 1

MobileKey: A Fast and Robust Key Generation System for Mobile Devices
Song, K., Zhu, Z., Yang, H., Ni, T. & Xu, W., Sept 2022, UbiComp/ISWC '22 Adjunct: Proceedings of the 2022 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2022 ACM International Symposium on Wearable Computers. New York, NY: Association for Computing Machinery, p. 427-431 (UbiComp/ISWC - Adjunct Proceedings of the ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the ACM International Symposium on Wearable Computers).

Recent advances in biometrics-based user authentication for wearable devices: A contemporary survey
Liu, S., Shao, W., Li, T., Xu, W. & Song, L., 15 Jun 2022, In: Digital Signal Processing. 125, 103120.Scopus citations: 9

Simultaneous Energy Harvesting and Gait Recognition using Piezoelectric Energy Harvester
Ma, D., Lan, G., Xu, W., Hassan, M. & Hu, W., Jun 2022, In: IEEE Transactions on Mobile Computing. 21, 6, p. 2198-2209 Scopus citations: 9

Time-Constrained Ensemble Sensing With Heterogeneous IoT Devices in Intelligent Transportation Systems
Feng, X., Luo, C., Wei, B., Zhang, J., Li, J., Wang, H., Xu, W., & 2 othersChan, M. C. & Leung, V. C. M., 6 May 2022, (Online published) In: IEEE Transactions on Intelligent Transportation Systems.Scopus citations: 2

A differential privacy-based classification system for edge computing in IoT
Xue, W., Shen, Y., Luo, C., Xu, W., Hu, W. & Seneviratne, A., 15 Jan 2022, In: Computer Communications. 182, p. 117-128Scopus citations: 4
A Novel Emergency Light Based Smart Building Solution: Design, Implementation, and Use Cases
Xu, W., Kim, J. Y., Huang, W., Kanhere, S. S., Jha, S. K., Hu, W. & Misra, P., 2022, Proceedings - 2022 IEEE 19th International Conference on Mobile Ad Hoc and Smart Systems (MASS 2022). IEEE, p. 577-585 (Proceedings - IEEE 19th International Conference on Mobile Ad Hoc and Smart Systems, MASS).

GASLA: Enhancing the Applicability of Sign Language Translation
Li, J., Liu, Y., Xu, W. & Li, Z., 2022, IEEE INFOCOM 2022 - IEEE Conference on Computer Communications. IEEE, p. 1249-1258 (Proceedings - IEEE INFOCOM).

̄²Key: A Cross-sensor Symmetric Key Generation System Using Inertial Measurements and Inaudible Sound
Wei, B., Xu, W., Li, K., Luo, C. & Zhang, J., 2022, Proceedings - 21st ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN 2022). IEEE, p. 183-194 (Proceedings - ACM/IEEE International Conference on Information Processing in Sensor Networks, IPSN ).

Vehicle-Key: A Secret Key Establishment Scheme for LoRa-enabled IoV Communications
Yang, H., Liu, H., Luo, C., Wu, Y., Li, W., Zomaya, A. Y., Song, L., & 1 othersXu, W., 2022, Proceedings - 2022 IEEE 42nd International Conference on Distributed Computing Systems, ICDCS 2022. IEEE, p. 787-797 (Proceedings - International Conference on Distributed Computing Systems).Scopus citations: 4

No Need of Data Pre-processing: A General Framework for Radio-based Device-free Context Awareness
WEI, B., LI, K., LUO, C., XU, W., ZHANG, J. & ZHANG, K., Nov 2021, In: ACM Transactions on Internet of Things. 2, 4, 29.

Cross-modality Interaction Network for Equine Activity Recognition Using Time-Series Motion Data
Mao, A., Huang, E., Xu, W. & Liu, K., Oct 2021, Animal Environment and Welfare - Proceedings of International Symposium. Ni, J., Wang-Li, L. & Wang, C. (eds.). International Research Center for Animal Environment and Welfare, p. 269-276

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Mao, A., Huang, E., Gan, H., Parkes, R. S. V., Xu, W. & Liu, K., Sept 2021, In: Sensors. 21, 17, 5818.Scopus citations: 8

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Zhang, J., Zheng, Y., Xu, W. & Chen, Y., 13 Jul 2021, (Online published) In: IEEE Transactions on Mobile Computing. Scopus citations: 2

A Novel Model-Based Security Scheme for LoRa Key Generation
Gao, J., Xu, W., Kanhere, S., Jha, S., Kim, J. Y., Huang, W. & Hu, W., 18 May 2021, IPSN ’21: Proceedings of the 20th International Conference on Information Processing in Sensor Networks (co-located with CPS-IoT Week 2021). Association for Computing Machinery, p. 47-61

InaudibleKey: Generic Inaudible Acoustic Signal based Key Agreement Protocol for Mobile Devices
Xu, W., Li, Z., Xue, W., Yu, X., Wei, B., Wang, J., Luo, C., & 2 othersLi, W. & Zomaya, A. Y., 18 May 2021, IPSN’ 21: Proceedings of the 20th International Conference on Information Processing in Sensor Networks. ACM, p. 106-118

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XU, W., ZHANG, J., HUANG, S., LUO, C. & LI, W., Apr 2021, In: ACM Computing Surveys. 54, 1, 14.Scopus citations: 13

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Ni, T., Chen, Y., Song, K. & Xu, W., 2021, UbiComp/ISWC 21 Adjunct - Proceedings of the 2021 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2021 ACM International Symposium on Wearable Computers. New York: Association for Computing Machinery, Inc, p. 666-671 (UbiComp/ISWC - Adjunct Proceedings of the ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the ACM International Symposium on Wearable Computers).Scopus citations: 1
EMIoT: A LoRa-enabled Smart Building Solution Based on Emergency Lights
Xu, W., Kim, J. Y., Huang, W., Kanhere, S., Jha, S. & Hu, W., 18 Nov 2020, BuildSys' 20 : Proceedings of the 7th ACM International Conference on Energy-Efficient Buildings, Cities, and Transportation. Association for Computing Machinery, p. 330-331 (BuildSys - Proceedings of the ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation).Scopus citations: 2

Poster Abstract: Inaudible Acoustic Signal based Key Agreement System for IoT devices
Xu, W., Li, Z., Xue, W., Yu, X., Wang, J., Luo, C., Li, W., & 1 othersZomaya, A. Y., Nov 2020, SenSys '20: Proceedings of the 2020 The 18th ACM Conference on Embedded Networked Sensor Systems. Association for Computing Machinery, p. 689-690 (SenSys - Proceedings of the ACM Conference on Embedded Networked Sensor Systems).Scopus citations: 1

Gait-Watch: A Gait-based context-aware authentication system for smart watch via sparse coding
Xu, W., Shen, Y., Luo, C., Li, J., Li, W. & Zomaya, A. Y., 1 Oct 2020, In: Ad Hoc Networks. 107, 102218.Scopus citations: 13

SolarSLAM: Battery-free loop closure for indoor localisation
Wei, B., Xu, W., Luo, C., Zoppi, G., Ma, D. & Wang, S., Oct 2020, 2020 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS). IEEE, p. 4485-4490 9340962. (IEEE International Conference on Intelligent Robots and Systems).Scopus citations: 2

Nephalai: Towards LPWAN C-RAN with Physical Layer Compression
Liu, J., Xu, W., Jha, S. & Hu, W., 21 Sept 2020, MobiCom '20: Proceedings of the 26th Annual International Conference on Mobile Computing and Networking. Association for Computing Machinery, p. 476-487 Scopus citations: 8

EnTrans: Leveraging Kinetic Energy Harvesting Signal for Transportation Mode Detection
Lan, G., Xu, W., Ma, D., Khalifa, S., Hassan, M. & Hu, W., Jul 2020, In: IEEE Transactions on Intelligent Transportation Systems. 21, 7, p. 2816-2827 12 p., 12730510.Scopus citations: 17

A multi-view CNN-based acoustic classification system for automatic animal species identification
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Poster Abstract: A Novel Modeling Involved Security Approach for LoRa Key Generation
Gao, J., Xu, W., Kanhere, S., Jha, S. & Hu, W., Apr 2020, Proceedings - 2020 19th ACM/IEEE International Conference on Information Processing in Sensor Networks, IPSN 2020. IEEE, p. 327-328 (ACM/IEEE International Conference on Information Processing in Sensor Networks).Scopus citations: 1

Securing Cyber-Physical Social Interactions on Wrist-Worn Devices
SHEN, Y., DU, B., XU, W., LUO, C., WEI, B., CUI, L. & WEN, H., Apr 2020, In: ACM Transactions on Sensor Networks. 16 , 2, 19.Scopus citations: 7

KEHKey: Kinetic Energy Harvester-based Authentication and Key Generation for Body Area Network
LIN, Q., XU, W., LAN, G., CUI, Y., JIA, H., HU, W., HASSAN, M., & 1 othersSENEVIRATNE, A., Mar 2020, In: Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies. 4, 1, 26 p., 41.Scopus citations: 11

Capacitor-based Activity Sensing for Kinetic-powered Wearable IoTs
LAN, G., MA, D., XU, W., HASSAN, M. & HU, W., Feb 2020, In: ACM Transactions on Internet of Things. 1, 1, 26 p., 2. Scopus citations: 15
Gait Recognition as a Service for Unobtrusive User Identification in Smart Spaces
LUO, C., WU, J., LI, J., WANG, J., XU, W., MING, Z., WEI, B., & 2 othersLi, W. & ZOMAYA, A. Y., Feb 2020, In: ACM Transactions on Internet of Things. 1, 1, 21 p., 5. Scopus citations: 6

Measurement, Characterization, and Modeling of LoRa Technology in Multifloor Buildings
Xu, W., Kim, J. Y., Huang, W., Kanhere, S. S., Jha, S. K. & Hu, W., 1 Jan 2020, In: IEEE Internet of Things Journal. 7, 1, p. 298-310 8865092. Scopus citations: 63

WiEnhance: Towards Data Augmentation in Human Activity Recognition using WiFi signal
Zhang, J., Wu, F., Hu, W., Zhang, Q., Xu, W. & Cheng, J., Dec 2019, Proceedings - 2019 15th International Conference on Mobile Ad-Hoc and Sensor Networks, MSN 2019. Institute of Electrical and Electronics Engineers Inc., p. 309-314 9066101. (Proceedings - 2019 15th International Conference on Mobile Ad-Hoc and Sensor Networks, MSN 2019). Scopus citations: 11

LoRa-Key: Secure Key Generation System for LoRa-Based Network
Xu, W., Jha, S. & Hu, W., Aug 2019, In: IEEE Internet of Things Journal. 6, 4, p. 6404-6416 13 p., 8580375. Scopus citations: 64

The Design, Implementation, and Deployment of a Smart Lighting System for Smart Buildings
Xu, W., Zhang, J., Kim, J. Y., Huang, W., Kanhere, S. S., Jha, S. K. & Hu, W., Aug 2019, In: IEEE Internet of Things Journal. 6, 4, p. 7266-7281 16 p., 8710297. Scopus citations: 41

Brush like a Dentist: Accurate Monitoring of Toothbrushing via Wrist-Worn Gesture Sensing
Luo, C., Feng, X., Chen, J., Li, J., Xu, W., Li, W., Zhang, L., & 2 othersTari, Z. & Zomaya, A. Y., May 2019, INFOCOM 2019 - IEEE Conference on Computer Communications. IEEE, p. 1234-1242 9 p. 8737513. (Proceedings - IEEE INFOCOM; vol. 2019). Scopus citations: 9

LoRa-Key: Secure Key Generation System for LoRa-Based Network
Xu, W., Jha, S. & Hu, W., Aug 2019, In: IEEE Internet of Things Journal. 6, 4, p. 6404-6416 13 p., 8580375. Scopus citations: 64

The Design, Implementation, and Deployment of a Smart Lighting System for Smart Buildings
Xu, W., Zhang, J., Kim, J. Y., Huang, W., Kanhere, S. S., Jha, S. K. & Hu, W., Aug 2019, In: IEEE Internet of Things Journal. 6, 4, p. 7266-7281 16 p., 8710297. Scopus citations: 41

H2B: Heartbeat-based secret key generation using piezo vibration sensors
Lin, Q., Xu, W., Liu, J., Khamis, A., Hu, W., Hassan, M. & Seneviratne, A., Apr 2019, IPSN 2019 - Proceedings of the 2019 Information Processing in Sensor Networks. ACM New York, p. 265-276 (IPSN - Proceedings of the ... Information Processing in Sensor Networks). Scopus citations: 35

KEH-Gait: Using Kinetic Energy Harvesting for Gait-based User Authentication Systems
Xu, W., Lan, G., Lin, Q., Khalifa, S., Hassan, M., Bergmann, N. & Hu, W., Jan 2019, In: IEEE Transactions on Mobile Computing. 18, 1, p. 139-152 14 p., 8344494. Scopus citations: 42

Energy Harvesting-Based Smart Transportation Mode Detection System via Attention-Based LSTM
Xu, W., Feng, X., Wang, J., Luo, C., Li, J. & Ming, Z., 2019, In: IEEE Access. 7, p. 66423-66434 12 p., 8721072. Scopus citations: 15

Poster abstract: Energy efficient LPWAN decoding via joint sparse approximation
Liu, J., Xu, W. & Hu, W., Nov 2018, SenSys 2018 - Proceedings of the 16th Conference on Embedded Networked Sensor Systems. ACM New York, p. 325-326 (SenSys - Proceedings of the 16th Conference on Embedded Networked Sensor Systems). Scopus citations: 1

Exploring the Feasibility of Physical Layer Key Generation for LoRaWAN
Xu, W., Jha, S. & Hu, W., Aug 2018, Proceedings: The 17th IEEE International Conference on Trust, Security and Privacy in Computing and Communications (IEEE TrustCom 2018) The 12th IEEE International Conference on Big Data Science and Engineering (IEEE BigDataSE 2018): 2018 IEEE Trustcom/BigDataSE. IEEE, p. 231-236 6 p. 8455912. (Proceedings - IEEE International Conference on Trust, Security and Privacy in Computing and Communications and ... IEEE International Conference on Big Data Science and Engineering, Trustcom/BigDataSE). Scopus citations: 11
Demo abstract: simultaneous energy harvesting and sensing using piezoelectric energy harvester
Ma, D., Lan, G., Xu, W., Hassan, M. & Hu, W., Apr 2018, PROCEEDINGS: ACM/IEEE International Conference on Internet of Things Design and Implementation: - IoTDI 2018 -. IEEE, p. 308-309 2 p. (Proceedings - ACM/IEEE International Conference on Internet of Things Design and Implementation, IoTDI 2018).Scopus citations: 19

SEHS: Simultaneous Energy Harvesting and Sensing using Piezoelectric Energy Harvester
Ma, D., Lan, G., Xu, W., Hassan, M. & Hu, W., Apr 2018, PROCEEDINGS - ACM/IEEE International Conference on Internet of Things Design and Implementation, IoTDI 2018. Institute of Electrical and Electronics Engineers Inc., p. 201-212 12 p. (Proceedings - ACM/IEEE International Conference on Internet of Things Design and Implementation, IoTDI). Scopus citations: 13

Shake-n-Shack: Enabling Secure Data Exchange Between Smart Wearables via Handshakes
Shen, Y., Yang, F., Du, B., Xu, W., Luo, C. & Wen, H., Mar 2018, 2018 IEEE International Conference on Pervasive Computing and Communications (PerCom). Institute of Electrical and Electronics Engineers Inc., 8444579. (IEEE International Conference on Pervasive Computing and Communications, PerCom).Scopus citations: 21

Sensor-Assisted Multi-View Face Recognition System on Smart Glass
Xu, W., Shen, Y., Bergmann, N. & Hu, W., Jan 2018, In: IEEE Transactions on Mobile Computing. 17, 1, p. 197-210 14 p. Scopus citations: 24

Continuous Authentication Using Eye Movement Response of Implicit Visual Stimuli
Zhang, Y., Hu, W., Xu, W., Chou, C. T. & Hu, J., Dec 2017, In: Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies. 1, 4, p. 1-22 22 p., 177.

CapSense: Capacitor-based activity sensing for kinetic energy harvesting powered wearable devices
Lan, G., Ma, D., Xu, W., Hassan, M. & Hu, W., Nov 2017, Proceedings of the 14th EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services. ACM New York, p. 106-115 (ACM International Conference Proceeding Series).Scopus citations: 24

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Accelerometer and Fuzzy Vault-Based Secure Group Key Generation and Sharing Protocol for Smart Wearables
Revadigar, G., Javali, C., Xu, W., Vasilakos, A. V., Hu, W. & Jha, S., Oct 2017, In: IEEE Transactions on Information Forensics and Security. 12, 10, p. 2467-2482 16 p., 7934407.Scopus citations: 35

Gait-watch: A context-aware authentication system for smart watch based on gait recognition
Xu, W., Shen, Y., Zhang, Y., Bergmann, N. & Hu, W., 18 Apr 2017, Proceedings - 2017 IEEE/ACM 2nd International Conference on Internet-of-Things Design and Implementation, IoTDI 2017 (part of CPS Week). ACM New York, p. 59-70 12 p. (Proceedings - IEEE/ACM ... International Conference on Internet-of-Things Design and Implementation, IoTDI). Scopus citations: 49

VEH-COM: Demodulating Vibration Energy Harvesting for Short Range Communication
Lan, G., Xu, W., Khalifa, S., Hassan, M. & Hu, W., Mar 2017, 2017 IEEE International Conference on Pervasive Computing and Communications (PerCom). Institute of Electrical and Electronics Engineers Inc., p. 170-179 10 p. 7917863. (IEEE International Conference on Pervasive Computing and Communications, PerCom).Scopus citations: 17
Automatic Key Generation Using Motion Energy Harvesters
Lin, Q., Cui, Y., Jiang, S., Ma, T., XU, W. & Hu, W., Feb 2017.

Gait-key: a gait-based shared secret key generation protocol for wearable devices
Xu, W., Javali, C., Revadigar, G., Luo, C., Bergmann, N. & Hu, W., Feb 2017, In: ACM Transactions on Sensor Networks. 13, 1, 6. Scopus citations: 49

KEH-Gait: Towards a Mobile Healthcare User Authentication System by Kinetic Energy Harvesting
Xu, W., Lan, G., Lin, Q., Khalifa, S., Bergmann, N., Hassan, M. & Hu, W., Feb 2017, Proceedings of the 2017 Network and Distributed System Security Symposium. Reston, VA: Internet Society

Sensor-assisted Face Recognition System on Smart Glass via Multi-view Sparse Representation Classification
Xu, W., Shen, Y., Bergmann, N. & Hu, W., Apr 2016, 2016 15th ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN) - Proceedings. Institute of Electrical and Electronics Engineers Inc., 7460721. (ACM/IEEE International Conference on Information Processing in Sensor Networks, IPSN - Proceedings). Scopus citations: 19

Walkie-Talkie: Motion-Assisted Automatic Key Generation for Secure On-Body Device Communication
Xu, W., Revadigar, G., Luo, C., Bergmann, N. & Hu, W., Apr 2016, 2016 15th ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN) - Proceedings. Institute of Electrical and Electronics Engineers Inc., 7460726. (ACM/IEEE International Conference on Information Processing in Sensor Networks, IPSN - Proceedings). Scopus citations: 63

Secure Key Generation and Distribution Protocol for Wearable Devices
Revadigar, G., Javali, C., Xu, W., Hu, W. & Jha, S., Mar 2016, 2016 IEEE International Conference on Pervasive Computing and Communication Workshops (PerCom Workshops). Institute of Electrical and Electronics Engineers Inc., 7457058. (IEEE International Conference on Pervasive Computing and Communication Workshops, PerCom Workshops). Scopus citations: 15

Transportation Mode Detection Using Kinetic Energy Harvesting Wearables
Lan, G., Xu, W., Khalifa, S., Hassan, M. & Hu, W., Mar 2016, 2016 IEEE International Conference on Pervasive Computing and Communication Workshops (PerCom Workshops). Institute of Electrical and Electronics Engineers Inc., 7457048. (IEEE International Conference on Pervasive Computing and Communication Workshops, PerCom Workshops). Scopus citations: 27

Mobile applications based on smart wearable devices
Xu, W., 1 Nov 2015, SenSys 2015 - Proceedings of the 13th ACM Conference on Embedded Networked Sensor Systems. ACM New York, p. 505-506 2 p. (SenSys - Proceedings of the ... ACM Conference on Embedded Networked Sensor Systems). Scopus citations: 9

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Shen, Y., Luo, C., Xu, W. & Hu, W., 1 Nov 2015, SenSys 2015 - Proceedings of the 13th ACM Conference on Embedded Networked Sensor Systems. ACM New York, p. 389-390 2 p. (SenSys - Proceedings of the ... ACM Conference on Embedded Networked Sensor Systems). Scopus citations: 5

Poster abstract: Robust and efficient sensor-assisted face recognition system on smart glass
Xu, W., Shen, Y., Bergmann, N. & Hu, W., Nov 2015, SenSys 2015 - Proceedings of the 13th ACM Conference on Embedded Networked Sensor Systems. ACM New York, p. 379-380 2 p. (SenSys - Proceedings of the ... ACM Conference on Embedded Networked Sensor Systems). Scopus citations: 2

A new information system using multimedia thin client and cloud architecture
Xu, W. & Xue, L., May 2014, Advances in Communication Technology and Systems. Yang, G. (ed.). Southampton, UK: WIT Press, p. 31-38 8 p. (WIT Transactions on Information and Communication Technologies; vol. 56).

Implementation of a Network Streaming Media Player Based on ARM Processor
Xu, W., Yuan, D. & Xu, J., Dec 2012, 2012 International Conference on Control Engineering and Communication Technology, ICCECT 2012: Proceedings. IEEE, p. 719-722 6414007. (International Conference on Control Engineering
Activities

**Workshop on Smart Wearable Systems and Applications**
Weitao XU (Member of programme committee)
Jun 2022 → Aug 2022

**IEEE International Conference on Parallel and Distributed Systems**
Weitao XU (Member of programme committee)
May 2022 → Aug 2022

**The 28th Annual International Conference On Mobile Computing And Networking**
Weitao XU (Organiser)
Apr 2022 → Oct 2022

**IEEE Global Communications Conference**
Weitao XU (Member of programme committee)
Mar 2022 → May 2022

**IEEE International Conference on Sensing, Communication, and Networking**
Weitao XU (Member of programme committee)
Feb 2022 → May 2022

**The 19th annual IEEE International Conference on Sensing, Communication and Networking**
Weitao XU (Member of programme committee)
Feb 2022 → Apr 2022

**International Conference on Embedded Wireless Systems and Networks**
Weitao XU (Member of programme committee)
Jan 2022 → May 2022

**18th EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services**
Weitao XU (Member of programme committee)
Jun 2021 → Sept 2021

**Combining Physical and Data-Driven Knowledge in Ubiquitous Computing**
Weitao XU (Chair)
Apr 2021 → Sept 2021

**VNI: Virtualization for Enabling Next-Generation IoT Networks**
Weitao XU (Member of programme committee)
Dec 2020 → Jun 2021

**Workshop on Cyber-Physical-Human System Design and Implementation**
Weitao XU (Member of programme committee)
Jun 2020 → May 2021

**The 7th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (BuildSys2020)**
Weitao XU (Member of programme committee)
Feb 2020 → ...
The 4th Asian Conference on Artificial Intelligence Technology (ACAIT)
Weitao XU (Member of programme committee)
Jan 2020 → May 2020

The IEEE International Conference on Advanced Robotics and Mechatronics (ICARM)
Weitao XU (Member of programme committee)
Jan 2020 → Jun 2020

Ubicomp Workshop on Combining Physical and Data-Driven Knowledge in Ubiquitous Computing
Weitao XU (Member of programme committee)
Jan 2020 → Jul 2020

Ad Hoc Networks (Journal)
Weitao XU (Associate Editor)
Oct 2019 → Oct 2021

The ACM/IEEE International Conference on Internet of Things Design and Implementation (IoTDI)
Weitao XU (Member of programme committee)
Oct 2019 → Apr 2020

Smart Sensing and Security System for IoT
Weitao XU (Speaker)
May 2019

Sensor-Assisted Smart Recognition System on Wearable Devices
Weitao XU (Speaker)
Apr 2019

CPS IoT week
Weitao XU (Organiser)
Feb 2019 → Apr 2020

EWSN
Weitao XU (Member of programme committee)
25 Jan 2019 → 27 Jan 2019

IEEE EWSN CoWireless Workshop
Weitao XU (Member of programme committee)
25 Jan 2019 → 27 Jan 2019

Exploring the Feasibility of Physical Layer Key Generation for LoRaWAN
Weitao XU (Speaker)
Jul 2018

Sensor-Assisted Face Recognition System on Smart Glass
Weitao XU (Speaker)
Oct 2017

Gait-Watch: A Context-aware Authentication System for Smart Watch Based on Gait Recognition
Weitao XU (Speaker)
Apr 2017

KEH-Gait: Towards a Mobile Healthcare User Authentication System by Kinetic Energy Harvesting
Weitao XU (Speaker)
Feb 2017
Biometric-based Recognition System on Wearable Devices
Weitao XU (Speaker)
Nov 2016

Sensor-assisted Face Recognition System on Smart Glass via Multi-view Sparse Representation Classification
Weitao XU (Speaker)
Apr 2016

Walkie-Talkie: Motion-Assisted Automatic Key Generation for Secure On-Body Device Communication
Weitao XU (Speaker)
Apr 2016

Managing the Web of Things: Linking the Real World to the Web (Journal)
Weitao XU (Book Series Editor)
Jan 2016 → May 2016

Mobile applications based on smart wearable devices
Weitao XU (Speaker)
Nov 2015

Prizes

ACM SIGBED China Rising Star Award
XU, Weitao (Recipient), 22 Sept 2021

Google PhD Fellowship
XU, Weitao (Recipient), 2016

IoTDI Best Demo Runner-up Award
XU, Weitao (Recipient), 2018

IPSN Best Paper Runner-up Award
XU, Weitao (Recipient), 2016

MARK WEISER BEST PAPER AWARD
DUAN, Di (Recipient), YANG, Huanqi (Recipient), Lan, Guohao (Recipient), Li, Tianxing (Recipient), JIA, Xiaohua (Recipient) & XU, Weitao (Recipient), 17 Mar 2023

Percom Best Work-in-Progress Paper Award
XU, Weitao (Recipient), 2016

Stanford's top 2% most highly cited scientists 2022
XU, Weitao (Recipient), Oct 2022

Press/Media

Aussie researchers want to use your walk to authenticate you
Weitao XU
24/05/17
1 item of Media coverage
CityU researchers develop a self-supervised AI adaptation framework to enhance sensing accuracy of EMG devices
Weitao XU
25/05/23
1 item of Media coverage

The era of talking buildings has arrived
Weitao XU
10/12/18
1 item of Media coverage

The way we walk can be used to power and secure our devices
Weitao XU
7/05/17
1 item of Media coverage

啥？走路的姿势都能用来做密码？！
Weitao XU
25/05/17
1 item of Media coverage

走路的姿态也能解锁手机？科学家开发步态验证技术
Weitao XU
25/05/17
1 item of Media coverage

Grants

Projects

SIRG: A Smart Egg Incubation Monitoring System Based on mmWave Sensing
XU, W. & LIU, K.
1/05/22 → …

GRF: Pushing the Boundaries of Wearable Sensing: A Tale of Two Modalities
XU, W. & Ma, D.
1/01/23 → …

ECS: Robust and Lightweight Security Framework for Low-power Wide-area Network
XU, W.
1/01/21 → …

DON_RMG: Towards a Secure and Privacy-preserving IoT Sensing Framework for Smart City - RMGS
XU, W.
1/03/21 → 29/03/23