Associate Professor Yuyang Peng

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Academic Qualification

Ph.D. in Electronic Engineering, Chonbuk National University, Jeonju, Republic of Korea, 2014

Teaching Area

Undergraduate Courses:
EIE480: Topics in Electronic and Information Engineering
EIE351: Communication Laboratory
EIE320: Digital Signal Processing
Graduate Courses:
MIIZ23: Digital Signal Processing

Research Area

Cooperative Communications
Spatial Modulation
Communication Security
IRS Communication

Working Experience

2023.7-present, Associate Professor, School of Computer Science and Engineering - Faculty of Innovation Engineering, Macau University of Science and Technology, Macau SAR, China.
2018.9-2023.6, Assistant Professor, School of Computer Science and Engineering - Faculty of Innovation Engineering, Macau University of Science and Technology, Macau SAR, China.
2014-2018, Post-doctoral Researcher, KAIST, Daejeon, Republic of Korea.

Academic Publication（selected）

Runlong Ye, **Yuyang Peng**, Fawaz Al-Hazemi, and Raouf Boutaba, "A Robust Cooperative Jamming Scheme for Secure UAV Communication via Intelligent Reflecting Surface," *IEEE Trans. Commun.,* vol. 72, no. 2, pp.1005-1019, 2024.

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Liping Xiong, **Yuyang Peng**, and Juho Lee, "A Partitioned-IRS Assisted Transmit GSSK Scheme for Wireless Communication System," *IEEE Wireless Commun. Lett* ., vol. 13, no. 2, pp.260-264, 2024.

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Dingyun Shu, **Yuyang Peng**, Ming Yue, Han Hai, Fawaz AL-Hazemi, and Mohammad Meraj Mirza, "Deep Learning Based Signal Detection for Quadrature Spatial Modulation System," *China Communications*, pp. 1-7, 2024.

Chaorong Zhang, **Yuyang Peng**, Ming Yue, and Fawaz AL-Hazemi, "A Simple Design of Reconfigurable Intelligent Surface-Assisted Index Modulation: Generalized Reflected Phase Modulation," *IEICE Trans. Fundam. Electron. Comput. Sci* ., vol. E98–A, no. 1, pp.1-5, 2024.

Han Hai, Si Wei, Xue-Qin Jiang, **Yuyang Peng**, and Mohsen Guizani, "Differential Scheme For Reconfigurable Intelligent Surface-Based Spatial Modulation System," *China Communications*, vol. 20, no. 10, pp. 100-108, 2023.

Ming Yue, **Yuyang Peng**, and Juho Lee, "RIS-Assisted Flexible Space Shift Keying for Wireless Communication System," *IEEE Wireless Commun. Lett* ., vol. 12, no. 10, pp. 1-5, 2023.

Jiangmin Zhang, Jiale Long, Zihao Du, Yi Ding, **Yuyang Peng**, and Jiangtao Xi, "Three-Dimensional Point Cloud-Filtering Method Based on Image Segmentation and Absolute Phase Recovery," *Electronics*, vol. 2023, pp. 1-20, 2023.

Huang Wei, **Yuyang Peng**, Ming Yue, Jiale Long, Fawaz AL-Hazemi, and Mohammad Meraj Mirza, "A Deep Reinforcement Learning Scheme for Spectrum Sensing and Resource Allocation in ITS," *Mathematics* vol. 2023, pp. 1-15, 2023.

Xihao Liu, Wei Wei, Cheng Liu, **Yuyang Peng**, Jinhao Huang, Jun Li, "Real-Time Monocular Depth Estimation Merging Vision Transformers on Edge Devices for AIoT," *IEEE Trans. Instrum. Meas* ., vol. 72, no. 5010709, pp.1-19, April. 2023.

Konglin Zhu, Wentao Chen, Lei Jiao, Jiaxing Wang, **Yuyang Peng**, and Lin Zhang, "Online training data acquisition for federated learning in cloud-edge networks," *Computer Networks*, vol. 223, no. 2023, pp.1-15, March, 2023.

Xin Li, Bifa Liang, Jinhao Huang, **Yuyang Peng**, Yier Yan, Jun Li, Wenli Shang, and Wei Wei, "Pillar-Based 3D Object Detection from Point Cloud with Multiattention Mechanism," *Wireless Communications and Mobile Computing*, vol. 2022, pp. 1-10, Feb. 2023.

Chaorong Zhang and **Yuyang Peng**, "Received Antenna Array Design of GSSK-Based Antennas Selection for RIS-assisted Communication," *IEEE Syst. J* ., vol. 17, no. 2, pp. 3366-3369, 2023.

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Zhenfei Kuang, Wei Wei, Yier Yan, Jie Li, Guangman Lu, **Yuyang Peng**, Jun Li, and Wenli Shang, "A Real-time and Robust Monocular Visual Inertial SLAM System Based on Point and Line Features for Mobile Robots of Smart Cities Toward 6G," *IEEE OJ-COMS*, pp. 1950-1962, vol. 3, 2022.

Jie Li, Zhenfei Kuang, Guangman Lu, **Yuyang Peng**, Wenli Shang, Jun Li, and Wei Wei, "A Lightweight Stereo Visual Odometry System for Navigation of Autonomous Vehicles in Low-Light Conditions," *Wireless Communications and Mobile Computing*, vol. 2022, pp. 1-14, 2022.

Han Zhu, **Yuyang Peng**, Hui Xu, Fei Tong, Xue-Qin Jiang, and Mohammad Meraj Mirza, "Secrecy Enhancement for SSK Based Communications in Wireless Sensing Systems," *IEEE Sensor J* ., vol. 12, no. 18, pp. 18192-18201, 2022.

Chaorong Zhang, **Yuyang Peng**, Fei Tong, and Jun Li, "An IRS-Aided GSSK Scheme for Wireless Communication System," *IEEE Commun. Lett* ., vol. 26, no. 6, pp. 1398-1402, June. 2022.

Wangzhaoqi Xie, Bao Li, **Yuyang Peng**, Han Zhu, Fawaz AL-Hazemi, and Mohammad Meraj Mirza, "Secrecy Enhancement for SSK-Based Visible Light Communication Systems," *Elecronics*, vol. 2022, pp. 1-15, 2022.

Yue Zang, **Yuyang Peng**, Sangdon Park, Han Hai, Fawaz AL-Hazemi, and Mohammad Meraj Mirza, "A Novel Cooperative Transmission Scheme in UAV-Assisted Wireless Sensor Networks," *Elecronics*, vol. 2022, pp. 1-13, 2022.

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Han Hai, Caiyan Li, Jun Li, **Yuyang Peng**, Jia Hou, and Xue-Qin Jiang, "Space-Time Block Coded Cooperative MIMO Systems," *Sensors*, vol. 2021, pp. 1-11, 2021.

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Yuyang Peng, Jun Li, and Xue-Qin Jiang, "A Hybrid Energy Efficient Cooperative Transmission Scheme in Multi-hop Wireless Sensor Networks," *IEEJ Trans. Elect. Electron. Eng*., vol. 15, no. 5, pp. 771-772, May. 2020.

Beomhan Baek, Joohyung Lee, **Yuyang Peng**, and Sangdon Park, "Three Dynamic Pricing Schemes for Resource Allocation of Edge Computing for IoT Environment," *IEEE Internet Things J.*, vol. 7, no. 5, pp. 4292-4303, May. 2020.

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Jun Li, Shuping Dang, Miaowen Wen, Xue-Qin Jiang, **Yuyang Peng**, and Han Hai, "Layered Orthogonal Frequency Division Multiplexing With Index Modulation," *IEEE Syst. J*., vol. 13, no. 4, pp. 3793-3802, 2019.

Fei Tong, Shibo He, **Yuyang Peng**, and Zhiguo Shi, "A Tractable Analysis of Positioning Fundamentals in Low-Power Wide Area Internet of Things," *IEEE Trans. Veh. Technol*., vol. 68, no. 7, pp. 7024-7034, 2019.

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Jun Li, **Yuyang Peng**, Xueqin Jiang, Yier Yan, and Prabhat Ranjan "Enhanced index modulated OFDM spread spectrum," *IEEE Access* , vol. 6, pp. 71028-71037, 2018.

Fawaz AL-Hazemi, **Yuyang Peng**, Chan-Hyun Youn, Josip Lorincz, Chao Li, Song Guo, Raouf Boutaba, "Dynamic allocation of power delivery paths in consolidated data centers based on adaptive UPS switching", *Computer Networks* , vol. 144, pp.254-270, Oct., 2018

Yuyang Peng, Fawaz Al-Hazemi, Raouf Boutaba, Fei Tong, Il-Sun Hwang, and Chan-Hyun Youn, "Enhancing energy efficiency via cooperative MIMO in wireless sensor networks: state of the art and future research directions," *IEEE Commun. Mag* . vol. 5, no. 11, pp. 47-53, 2017.

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Yuyang Peng and Limei Peng "A cooperative transmission strategy for body-area networks in healthcare systems," *IEEE Access* , vol. 4, pp. 9155-9162, 2017.

Yuyang Peng, Fawaz Al-Hazemi, Heejae Kim, and Chan-Hyun Youn, "Design and optimization for energy-efficient cooperative MIMO transmission in ad hoc networks," *IEEE Trans. Veh. Technol* ., vol. 66, no. 1, pp. 710-719, 2017.

Yuyang Peng, Fawaz Al-Hazemi, Heejae Kim, and Chan-Hyun Youn "Joint selection for cooperative spectrum sensing in wireless sensor networks," *IEEE Sensor J* ., vol. 16, no. 22, pp. 7837-7838, 2016.

Fawaz Al-Hazemi, Dong-Ki Kang, Seong-Hwan Kim, S. H. Shah Newaz, **Yuyang Peng**, and Chan-Hyun Youn, "LPCFreqSchd: A local power controller using the frequency scheduling approach for virtualized servers," *Cluster Computing* , vol. 19, no. 2, pp.663-678, Jun, 2016.

Yuyang Peng, Dong-Ki Kang, Fawaz Al-Hazemi, and Chan-Hyun Youn, "Energy and QoS aware resource allocation for heterogeneous sustainable cloud datacenters," *Optical Switching and Networking* , vol. 23, no. 3, pp. 225-240, 2016.

Yuyang Peng and Chan-Hyun Youn, "Lifetime and energy optimization in multihop wireless sensor networks with spatial modulation based cooperative MIMO," *IEEJ Trans. Elect. Electron. Eng* ., vol. 10, no. 6, pp. 731-732, Nov, 2015.

Yuyang Peng and Chan-Hyun Youn, "An energy-efficient cooperative MIMO transmission with data compression in wireless sensor networks," *IEEJ Trans. Elect. Electron. Eng* ., vol. 10, no. 6, pp.729-730, Nov, 2015.

Fawaz Al-Hazemi, **Yuyang Peng**, and Chan-Hyun Youn, "A MISO model for power consumption in virtualized servers," *Cluster Computing* , vol. 18, no. 2, pp.847-863, Jun, 2015.

Professional Certification and Awards

Best Paper Award, The Korean Institute of Communications and Information Science, 2011

Best Paper Award, The Korean Institute of Signal Processing and System Society, 2012

Albert Nelson Marquis Lifetime Achievement Award, 2018

Marquis Who's Who in the world, 2018

Marquis Who's Who in the world, 2019

Professional Society Membership

Member of The Korean Institute of Communications and Information Science (KICS)

Senior Member of Institute of Electrical and Electronics Engineers (IEEE)

Professional Activity

Associate Editor, *IEEE Access*

IEEE Macau, Executive Board Member