

(+86) 13713825007  
yfsun0327@gmail.com  
Homepage: yfsun0327.github.io

# Yifei Sun

PhD Candidate at HKU



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## RESEARCH INTEREST

### Sensing-assisted Radio Resource Management in Wireless Communication Systems

low-complexity scheme design, adaptive and predictive scheduling design, millimeter wave, wireless sensor networks

### Algorithm Design and System Implementation for Wireless Sensing Applications

wireless localization/tracking, gesture classification, link blockage prediction, passive bistatic radar, multi-target tracking

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## EDUCATION

**PhD in Computer Science**, in HKU-SUSTech joint PhD program

2019.09 - Present

*Dept. of Computer Science, The University of Hong Kong (HKU)*

*Dept. of Electronic and Electrical Engineering, Southern University of Science and Technology (SUSTech)*

**Bachelor of Engineering**,

2015.09 - 2019.06

*Dept. of Electronic and Electrical Engineering, Southern University of Science and Technology (SUSTech)*

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## PUBLICATIONS

("\*" denotes equal contribution)

[P2] Y. Sun, B. Lv, R. Wang, H. Tan, and F. Lau,

"Dynamic Uploading Scheduling in mmWave-Based Sensor Networks with Blockage Prediction",  
submitted to ACM Journals for possible publication.

[P1] Y. Sun, B. Lv, R. Wang, H. Tan, and F. Lau,

"Predictive Delay-Aware Scheduling with Receiver Rotation Detection and mmWave Channel Learning",  
submitted to *IEEE Transactions on Wireless Communications* for possible publication. (major revision)

[J2] C. Yu, Y. Sun, Y. Luo, and R. Wang,

"mmAlert: mmWave Link Blockage Prediction via Passive Sensing",  
*IEEE Wireless Communications Letters*, vol. 12, no. 12, pp. 2008-2012, 2023.

[J1] Y. Sun, J. Li, T. Zhang, R. Wang, X. Peng, X. Han, and H. Tan,

"An Indoor Environment Sensing and Localization System via mmWave Phased Array",  
*Journal of Communications and Information Networks*, vol. 7, no. 4, pp. 383-393, 2022.

[C3] Y. Sun, B. Lv, R. Wang, H. Tan, and F. Lau,

"Dynamic Uploading Scheduling in mmWave-Based Sensor Networks via Mobile Blocker Detection",  
*arXiv preprint arXiv:2311.00940*, 2023. (accepted by ICPADS'23)

[C2] Y. Sun, B. Lv, R. Wang, H. Tan, and F. Lau,

"Predictive Resource Allocation in mmWave Systems with Rotation Detection",  
in *ICC 2023-IEEE International Conference on Communications*, 2023, pp. 2753-2759.

[C1] J. Li\*, C. Yu\*, Y. Luo\*, Y. Sun\*, and R. Wang,

"Passive Motion Detection via mmWave Communication System",  
in *2022 IEEE 95th Vehicular Technology Conference:(VTC2022-Spring)*, 2022, pp. 1-6.

[T2] Y. Sun, R. Wang, B. Lv, W. Chen,

"Communication Method, Device, Equipment and Storage Medium",  
*CN Patent*, CN110912600B issued July 7, 2023.

[T1] Y. Sun, R. Wang, W. Chen, X. Li,

"Method for Beam Forming by Predicting Millimeter Wave Channel Distribution through Angular Velocity",  
*CN Patent*, CN111106861B issued July 23, 2021.

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## VOLUNTEERING

### Reviewer

*Journals including TWC, TCOM, TMC, IoTJ, OJVT, OJCOMS, WCL, CL.*

*Conferences including INFOCOM'21&24, ICC'22&23&24, GLOBECOM'21&22&23, ICPADS'22, WCNC'23.*

### Teaching Assistant

*COMP2121 Discrete Mathematics (Spring 2023 and Autumn 2019, HKU)*

*EE205 Signals and Systems (Spring 2022, SUSTech)*