



IEEE International Conference on Sensing, Communication, and Networking 20–23 September 2022 // Virtual Conference

Accepted Papers

The following papers are accepted for the main conference:

- **Wilmg: Pushing the Limit of WiFi Sensing with Low Transmission Rates**

Kun Yang and Xiaolong Zheng (Beijing University of Posts and Telecommunications, China); Jie Xiong (University of Massachusetts Amherst, USA); Liang Liu and Huadong Ma (Beijing University of Posts and Telecommunications, China)

- **WiCAM: Imperceptible Adversarial Attack on Deep Learning based Wi-Fi Sensing**

Leiyang Xu, Xiaolong Zheng, Xiangyuan Li, Yucheng Zhang, Liang Liu and Huadong Ma (Beijing University of Posts and Telecommunications, China)

- **ViTag: Online WiFi Fine Time Measurements Aided Vision-Motion Identity Association in Multi-person Environments**

Bryan Bo Cao (Stony Brook University, USA); Abrar Alali (Old Dominion University, USA & Saudi Electronic University, Saudi Arabia); Hansi Liu (WINLAB, Rutgers University, USA); Nicholas Meegan (Rutgers University, USA); Marco Gruteser (WINLAB / Rutgers University, USA); Kristin Dana (Rutgers University, USA); Ashwin Ashok (Georgia State University, USA); Shubham Jain (Stony Brook University, USA)

- **MAGDEFENDER: Detecting Eavesdropping on Mobile Devices using the Built-in Magnetometer**

Hao Pan (Shanghai Jiao Tong University, China); Feitong Tan (Simon Fraser University, Canada); Wenhao Li, Yi-Chao Chen, Lanqing Yang and Guangtao Xue (Shanghai Jiao Tong University, China); Xiaoyu Ji (Zhejiang University, China)

- **Blocking Island Paradigm Enhanced Intelligent Coordinated Virtual Network Embedding Based on Deep Reinforcement Learning**

Ting Wang, Peng Yang and Zhihao Wang (East China Normal University, China); Haibin Cai (Software Engineering Institute, East China Normal University, China)

- **Co-Cache: Inertial-Driven Infrastructure-less Collaborative Approximate Caching**

James M Mariani, Yongqi Han and Li Xiao (Michigan State University, USA)

- **Online Bayesian Learning for Rate Adaptation in Non-stationary Wireless Channels**

Xiaoying Lei (Yangzhou University, China)

- **Your Breath Doesn't Lie: Multi-user Authentication by Sensing Respiration using mmWave Radar**

Yao Wang (Xidian University, China); Tao Gu (Macquarie University, Australia); Tom H. Luan (Xidian University, China); Yong Yu (Xi'an University of Posts and Telecommunications, China)

- **LiFOD: Lighting Extra Data via Fine-grained OWC Dimming**

Xiao Zhang, James M Mariani, Li Xiao and Matt Mutka (Michigan State University, USA)

- **On-Demand or On-Premises: Online Mitigation of DDoS Attacks via Cloud-Edge Coordination**

Yi Zhong (Wuhan University, China); Lei Jiao (University of Oregon, USA); Ruiting Zhou (Wuhan University, China); Liuqing Song (Computer Network Information Center, University of Chinese Academy of Sciences, China)

- **EarGest: Hand Gesture Recognition with Earables**

Khaled Alkiek (Alexandria University, Egypt); Khaled A. Harras (Carnegie Mellon University, USA); Moustafa Youssef (Alexandria University, Egypt)

- **VoronoiBoost: Data-driven Probabilistic Spatial Mapping of Mobile Network Metadata**

Orlando E. Martínez-Durive (IMDEA Networks Institute, Spain); Theo Couturieux (ENSEEIH, France); Cezary Ziemlicki (Orange labs, France); Marco Fiore (IMDEA Networks Institute, Spain)

- **Skunk – A Blockchain and Zero Trust Security Enabled Federated Learning Platform for 5G/6G Network Slicing**

Eranga Bandara, Sachin Shetty and Ravi Mukkamala (Old Dominion University, USA); Abdul Rahman (Virginia Polytechnic University, USA); Xueping Liang (University of North Carolina Greensboro, USA); Wee-Keong Ng (Nanyang Technological University, Singapore)

- **Quick and Reliable Physical-layer Data Aggregation in LoRa through Multi-Packet Reception**

Zhirong Tang, Lizhao You and Liqun Fu (Xiamen University, China); Haipeng Dai (Nanjing University & State Key Laboratory for Novel Software Technology, China)

- **TeRFF: Temperature-aware Radio Frequency Fingerprinting for Smartphones**

Xiaolin Gu, Wenjia Wu, Naixuan Guo, Wei He, Aibo Song, Ming Yang, Zhen Ling and Luo Junzhou (Southeast University, China)

- **Wakeup Receiver Using Passive Amplification by Means of a Switched SAW Resonator**

Georg Meller (Technische Universität Dresden, Germany); Michael Methfessel (IHP microelectronics, Germany); Bastian Lindner (TU Dresden, Germany); Jens Wagner (Technische Universität Dresden & Chair for Circuit Design and Network Theory, Germany); Frank Ellinger (Technische Universität Dresden, Germany); Rolf Kraemer (IHP Microelectronics, Germany)

- **Stitching Weight-Shared Deep Neural Networks for Efficient Multitask Inference on GPU**

Zeyu Wang (Tsinghua University, China); Xiaoxi He (ETH Zurich, Switzerland); Zimu Zhou (Singapore Management University, Singapore); Xu Wang, Qiang Ma and Xin Miao (Tsinghua University, China); Zhuo Liu (Remarkable Universal Network Company, China); Lothar Thiele (Swiss Federal Institute of Technology Zurich (ETH Zurich), Switzerland); Zheng Yang (Tsinghua University, China)

- **Facilitating Radar-Based Gesture Recognition With Self-Supervised Learning**

Zhiyao Sheng (Shanghai Jiao Tong University, China); Huatao Xu (Nanyang Technological University, Singapore); Qian Zhang and Dong Wang (Shanghai Jiao Tong University, China)

- **X-Disco: Cross-Technology Neighbor Discovery**

Shuai Wang (George Mason University, USA); Jianlin Guo (Mitsubishi Electric Research Laboratories, USA); Pu Wang (Mitsubishi Electric Research Laboratories (MERL), USA); Kieran Parsons and Philip Orlik (Mitsubishi Electric Research Laboratories, USA); Yukimasa Nagai (Mitsubishi Electric Corp., Japan); Takenori Sumi (Mitsubishi Electric Corporation, Japan); Parth Pathak (George Mason University, USA)

- **WiVelo: Fine-grained Walking Velocity Estimation for Wi-Fi Passive Tracking**

Chenning Li, Li Liu, Zhichao Cao and Mi Zhang (Michigan State University, USA)

- **ScreenInformer: Whispering Secret Information via an LCD Screen**

Xieyang Sun and Wei Xi (Xi'an Jiaotong University, China); Zhiping Jiang (Xidian University, China); Zuhao Chen and Han Hao (Xi'an Jiaotong University, China)

- **Energy-efficient Federated Learning via Stabilization-aware On-device Update Scaling**

Suwei Xu, Yibo Jin, Zhuzhong Qian and Sheng Zhang (Nanjing University, China); Ming Zhao, Zhenjie Lin, Qiang Lin and Liming Wang (China Southern Power Grid Shenzhen Digital Power Grid Research Institute, China)

- **FedMix: A Sybil Attack Detection System Considering Cross-layer Information Fusion and Privacy Protection**

Ruwu Wang and Jing Zheng (Dalian University of Technology, China)

- **CoopEdge: Cost-effective Server Deployment for Cooperative Multi-Access Edge Computing**

Rong Cong, Zhiwei Zhao and Linyuanqi Zhang (University of Electronic Science and Technology of China, China); Geyong Min (University of Exeter, United Kingdom (Great Britain))

- **VisBLE: Vision-Enhanced BLE Device Tracking**

Wenchao Jiang (Singapore University of Technology and Design, Singapore); Feng Li (Southeast University, China); Luoyu Mei (Southeast University & City University of Hong Kong, China); Ruofeng Liu (University of Minnesota, USA); Shuai Wang (Southeast University, China)

- **Low Cost Light Source Identification in Real World Settings**

Tushar K Routh, Nurani Saoda, Md Fazlay Rabbi Masum Billah and Brad Campbell (University of Virginia, USA)

- **Divide and Code: Efficient and Real-time Data Recovery from Corrupted LoRa Frames**

Niloofer Yazdani (TWTG, The Netherlands); Nikos Kouvelas (IMEC, The Netherlands); Daniel E. Lucani (Aarhus University, Denmark); R. R. Venkatesha Prasad (Delft University of Technology, The Netherlands)

- **ChopTags: An Accurate and Low-cost Interface to Identify User/Item Interactions**

Haofan Cai (University of California Santa Cruz, USA); Ge Wang (Xi'an Jiaotong University, China); Josue Leyva and Ian Pham (University of California Santa Cruz, USA); Jinsong Han (Zhejiang University & School of Cyber Science and Technology, China); Shigang Chen (University of Florida, USA); Chen Qian (University of California at Santa Cruz, USA)

- **Incentivizing Online Edge Caching via Auction-Based Subsidization**

Youmei Song (Beihang University, China); Lei Jiao (University of Oregon, USA); Renyu Yang (University of Leeds, United Kingdom (Great Britain)); Tianyu Wo (Beihang University, China); Jie Xu (Leeds University, United Kingdom (Great Britain))

- **Pedestrian Liveness Detection Based on mmWave Radar and Camera Fusion**

Hao Li (Southeast University, China); Ruofeng Liu (University of Minnesota, USA); Shuai Wang (Southeast University, China); Wenchao Jiang (Singapore University of Technology and Design, Singapore); Chris Xiaoxuan Lu (University of Edinburgh, United Kingdom (Great Britain))

- **Focus! Provisioning Attention-aware Detection for Real-time On-device Video Analytics**

Yuting Yan, Yibo Jin, Sheng Zhang, Fangwen Cheng, Zhuzhong Qian and Sanglu Lu (Nanjing University, China)

- **Exploiting the Computational Path Diversity with In-network Computing for MEC**

Xiaolin Guo, Fang Dong, Dian Shen, Zhaowu Huang, Zhenyang Ni, Yulong Jiang and Daheng Yin (Southeast University, China)

- **RFPass: Towards Environment-Independent Gait-based User Authentication Leveraging RFID**

Yunzhong Chen (Shanghai Jiaotong University, China); Jiadi Yu, Linghe Kong, Yanmin Zhu and Feilong Tang (Shanghai Jiao Tong University, China)

- **DARPA: Deployment of UAVs for Polygonal Sizable Object Surveillance**

Haipeng Dai (Nanjing University & State Key Laboratory for Novel Software Technology, China); Xuzhen Lin and Jiaqi Zheng (Nanjing University, China); Yuben Qu (Nanjing University of Aeronautics and Astronautics, China); Weijun Wang (Nanjing University & University of Goettingen, China); Shuyu Shi (University of Nanjing, China); Chi Lin (Dalian University of Technology, China); Wanchun Dou (Nanjing University, China)

- **Frequency- and Orientation-related Phase Fingerprints for RFID Tag Authentication**

Kai Zhang and Jiuwu Zhang (Tianjin University, China); Xin Xie (Hong Kong Polytechnic University, Hong Kong); Xinyu Tong, Xiulong Liu and Keqiu Li (Tianjin University, China)

- **WiLCA: Accelerating Contactless Authentication with Limited Data**

Chi Lin and Chuanying Ji (Dalian University of Technology, China); Fenglong Ma (Pennsylvania State University, USA); Lei Wang, Wei Zhong and Guowei WU (Dalian University of Technology, China)

- **HPFL-CN: Communication-Efficient Hierarchical Personalized Federated Edge Learning via Complex Network Feature Clustering**

Zijian Li (Jilin University, China); Zihan Chen (Singapore University of Technology and Design & National University of Singapore, Singapore); Xiaohui Wei, Shang Gao and Chenghao Ren (Jilin University, China); Tony Q. S. Quek (Singapore University of Technology and Design, Singapore)

- **Universal Timestamping with Ambient Sensing**

Adeel Nasrullah, Momin Ahmad Khan and Fatima Anwar (University of Massachusetts Amherst, USA)

- **Identifying the BLE Misconfigurations of IoT Devices through Companion Mobile Apps**

Jianqi Du (Shandong University, China); Fenghao Xu (The Chinese University of Hong Kong, Hong Kong); Chennan Zhang, Zidong Zhang, Xiaoyin Liu, Pengcheng Ren, Wenrui Diao and Shanqing Guo (Shandong University, China); Kehuan Zhang (The Chinese University of Hong Kong, Hong Kong)

- **ReaderPrint: A Universal Method for RFID Readers Authentication Based on Impedance Mismatch**

Yinan Zhu (Tsinghua University, China); Chunhui Duan (Beijing Institute of Technology, China); Xuan Ding and Zheng Yang (Tsinghua University, China)

- **VOGUE: Secure User Voice Authentication on Wearable Devices using Gyroscope**

Shan Chang and Xinggang Hu (Donghua University, China); Hongzi Zhu (Shanghai Jiao Tong University, China); Wei Liu (Anhui University of Finance and Economics, China); Lei Yang (The Hong Kong Polytechnic University, China)

- **VLC Physical Layer Security through RIS-aided Jamming Receiver for 6G Wireless Networks**

Simone Soderi (IMT School for Advanced Studies Lucca, Italy); Alessandro Brighente (University of Padova, Italy); Federico Turrin (University of Padova, Italy); Mauro Conti (University of Padova, Italy)

- **Game Theoretic Analysis of Urban E-Taxi Systems: Equilibria and Efficiency**

Yukun Yuan (SUNY-Stony Brook University, USA); Yue Zhao (Stony Brook University, USA); Lin Chen (Sun Yat-sen University, China); Shan Lin (Stony Brook University, USA)

- **mmWave on a Farm: Channel Modeling for Wireless Agricultural Networks at Broadband Millimeter-Wave Frequency**

Shuai Nie, Mohammad M. R. Lunar, Geng Bai, Yufeng Ge and Santosh Pitla (University of Nebraska-Lincoln, USA); Can Emre Koksall (The Ohio State University, USA); Mehmet Can Vuran (University of Nebraska-Lincoln, USA)

- **DETROIT: Data Collection, Translation and Sharing for Rapid Vehicular App Development**

Mert D Pesé (University of Michigan, USA); Dongyao Chen (University of Michigan, Ann Arbor, USA); C. Andrés Campos, Alice Ying, Troy Stacer and Kang Shin (University of Michigan, USA)

- **Real-time DNN Model Partitioning for QoE Enhancement in Mobile Vision Applications**

Jeong-A Lim and Yeongjin Kim (Inha University, Korea (South))

- **Assisting Backdoor Federated Learning with Whole Population Knowledge Alignment in Mobile Edge Computing**

Tian Liu, Xueyang Hu and Tao Shu (Auburn University, USA)

- **DeepFake Videos Detection via Spatiotemporal Inconsistency Learning and Interactive Fusion**

Xiangling Ding (Hunan University of Science and Technology, China); Zhu Wenjie and Dengyong Zhang (Changsha University of Science and Technology, China)

- **A Hybrid Deep Reinforcement Learning Approach for Dynamic Task Offloading in NOMA-MEC System**

Ce Shang, Yan Sun and Hong Luo (Beijing University of Posts and Telecommunications, China)

- **Distributed Caching Control Strategy in Mobile Edge Computing: A Mean Field Game Approach**

Hao Feng (Southwest University, China); Songtao Guo, Chao Chen and Xianlong Jiao (Chongqing University, China)

- **How Manufacturers Can Easily Improve Working Range of Passive RFIDs**

Ju Wang (Northwest University, China); Liqiong Chang (Northwest University); Omid Abari (University of Waterloo, Canada); Srinivasan Keshav (University of Cambridge & University of Waterloo)

- **MASCOT: Mobility-Aware Service Function Chain Routing in Mobile Edge Computing**

Xingpeng Fan, Gongming Zhao, Huaqing Tu and Hongli Xu (University of Science and Technology of China, China); He Huang (Soochow University, China)

- **Task Scheduling Algorithm Based on Computing-Aware in Mobile Ad Hoc Cloud**

Qi Zhang and Yang Zhang (Soochow University, China); Shukui Zhang (School of Computer Science and Technology, Soochow University, China); Hao Long (Soochow University, China)

- **Placing Wireless Chargers with Multiple Antennas**

Haipeng Dai (Nanjing University & State Key Laboratory for Novel Software Technology, China); Yue Zhao (Nanjing University, China); Weijun Wang (Nanjing University & University of Goettingen, China); Rong Gu (Nanjing University, China); Yuben Qu (Nanjing University of Aeronautics and Astronautics, China); Chi Lin (Dalian University of Technology, China); Lijie Xu (Nanjing University of Posts and Telecommunications, China); Wanchun Dou (Nanjing University, China)

- **Joint Passive Beamforming and Elevation Angle-Dependent Trajectory Design for RIS-aided UAV-enabled Wireless Sensor Networks**

Mingqian Shao, Yifan Liu, Bin Duo, Jin Ning, Junsong Luo, Xing Zhu and Mingzhe Liu (Chengdu University of Technology, China); Zhengqiang Wang (Chongqing University of Posts and Telecommunications, China)

- **Comparative Evaluation of Millimeter-Wave Beamsteering Algorithms Using Outdoor Phased Antenna Array Measurements**

Aleksandar Ichkov (RWTH Aachen University, Germany); Simon Häger (TU Dortmund University, Germany); Petri Mähönen (RWTH Aachen University, Germany & Aalto University, Finland); Ljiljana Simić (RWTH Aachen University, Germany)

- **Distributed Decision Making for V2V Charge Sharing in Intelligent Transportation Systems**

Punyasha Chatterjee (Jadavpur University, India); Pratham Majumder (CMR Institute of Technology, India); Arpita Debnath (The Calcutta Technical School, India); Sajal K. Das (Missouri University of Science and Technology, USA)

PROGRAM ([HTTPS://SECON2022.IEEE-SECON.ORG/PROGRAM/](https://secon2022.ieee-secon.org/program/))

Accepted Papers (<https://secon2022.ieee-secon.org/program/accepted-papers/>)

Keynotes (<https://secon2022.ieee-secon.org/program/keynotes/>)

Virtual Access (<https://secon2022.ieee-secon.org/program/virtual-access/>)

Zoom Instructions for Authors/Participants and Session Chairs (<https://secon2022.ieee-secon.org/program/zoom-instructions-for-authors-participants-and-session-chairs/>)

HOME ([HTTPS://SECON2022.IEEE-SECON.ORG/](https://secon2022.ieee-secon.org/))

ABOUT ([HTTPS://SECON2022.IEEE-SECON.ORG/ABOUT/](https://secon2022.ieee-secon.org/about/))

COMMITTEE ([HTTPS://SECON2022.IEEE-SECON.ORG/COMMITTEE/](https://secon2022.ieee-secon.org/committee/))

AUTHORS ([HTTPS://SECON2022.IEEE-SECON.ORG/AUTHORS/](https://secon2022.ieee-secon.org/authors/))

PROGRAM ([HTTPS://SECON2022.IEEE-SECON.ORG/PROGRAM/](https://secon2022.ieee-secon.org/program/))

REGISTRATION ([HTTPS://SECON2022.IEEE-SECON.ORG/REGISTRATION/](https://secon2022.ieee-secon.org/registration/))

PATRONS ([HTTPS://SECON2022.IEEE-SECON.ORG/PATRONS/](https://secon2022.ieee-secon.org/patrons/))

© Copyright 2022 IEEE – All rights reserved. Use of this website signifies your agreement to the [IEEE Terms and Conditions](http://www.ieee.org/about/help/site_terms_conditions.html) (http://www.ieee.org/about/help/site_terms_conditions.html). A not-for-profit organization, IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.

Home (<https://secon2022.ieee-secon.org/>) | Sitemap (<https://secon2022.ieee-secon.org/sitemap>) | Contact (<https://secon2022.ieee-secon.org/contact>) | Accessibility (<https://www.ieee.org/accessibility-statement.html>) | Nondiscrimination Policy (<https://www.ieee.org/about/corporate/governance/p9-26.html>) | IEEE Ethics Reporting (<http://www.ieee-ethics-reporting.org>) | Terms and Conditions (http://www.ieee.org/site_terms_conditions.html) | IEEE Privacy Policy (https://www.ieee.org/security_privacy.html)

(<http://www.comsoc.org>)

(<http://www.ieee.org>)