Sai Wang

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Main Research Interests

Wireless Communication

-MIMO beamforming design,
-Edge-cloud computing,
-Integrated sensing and communication,
-Wireless sensor network.

Nonlinear Optimization

-Nonlinear programming,
-Nonlinear convex optimization,
-Complex-variable optimization,
-Saddle-point problem.

Machine Learning

-Federated learning,
-Distributed learning,
-Game theory.

Bibliography

Sai Wang received a B.S. degree in communication engineering from the Shandong University of Science and Technology, Qingdao, China, in 2016 and an M.S. degree in information and telecommunication engineering from Soongsil University, Seoul, South Korea, in 2019. He received a Ph.D. degree in Applied Mathematics at the Southern University of Science and Technology, Shenzhen, China. His research interests include cloud/edge computing, machine learning, and numerical optimization.

Education

2019 - 2023 Ph.D. Southern University of Science and Technology, Shenzhen, China
Majoring in Applied Mathematics.

2017 - 2019 M.S. Soongsil University, Seoul, Korea
Majoring in Information and Telecommunication Engineering.

2016 - 2019 M.S. Shandong University of Science and Technology, Qingdao, China
Majoring in Information and Telecommunication Engineering.

2012 - 2016 B.S. Shandong University of Science and Technology, Qingdao, China
Majoring in Communication engineering.

Recent Work

04/ 2024 S. Wang and Y. Gong, “Nonlinear convex optimization: From relaxed proximal point algorithm to prediction correction method,” Optimization, under review, 2024.

05/ 2024 S. Wang and Y. Gong, “A Generalized Primal-Dual Correction Method for Saddle-Point Problems with the Nonlinear Coupling Operator,” IEEE Control System Letters, under review, 2024.

Selected Publications

03/ 2024 S. Wang Y. Gong, X. Li, and Q. Li, “Integrated Sensing, Communication and Computation Over-the-Air: Beampattern Design for Wireless Sensor Networks,” IEEE Internet of Things Journal, vol. 11, no. 6, pp. 9681–9692, March 2024

03/ 2024 S. Wang X. Li, and Y. Gong, “Energy-Efficient Task Offloading and Resource Allocation for Delay-Constrained Edge-Cloud Computing Networks,” IEEE Transactions on Green Communications and Networking, vol. 8, no. 1, pp. 514–524, March 2024.

11/ 2023 S. Wang and Y. Gong, “Fast-Convergence Federated Edge Learning via Bilevel Optimization,” 2023 28th Asia Pacific Conference on Communications (APCC), Sydney, Australia, pp. 87–92, 2023.

09/ 2023 S. Wang and Y. Gong, “Joint Power Control and Task Offloading in Collaborative Edge–Cloud Computing Networks,” IEEE Internet of Things Journal, vol. 10, no. 17, pp. 15197 – 15208, Sept. 2023

07/ 2023 S. Wang and Y. Gong, “Convergence Analysis of Cloud-Aided Federated Edge Learning on Non-IID Data,” 2022 IEEE 23rd International Workshop on Signal Processing Advances in Wireless Communication (SPAWC), Oulu, Finland, pp. 1–5, 2022.