Yu Qiao

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Research Areas

I am currently a Research Professor at the School of Computing, Kyung Hee University (KHU), South Korea. My research interests include efficient & trustworthy AI, federated learning, adversarial machine learning, and generative artificial intelligence (AIGC). I have published multiple papers in high-impact Q1 SCI journals such as Information Fusion, IEEE TNSE, IEEE TNSM, Neural Networks, and IEEE IoTJ, as well as in international conferences including IEEE ICC, IEEE NOMS, IEEE APNOMS.

Education and Work Experience

2025.09 – Present	Research Professor	Kyung Hee University
2022.03 - 2025.08	Ph.D.	Kyung Hee University
2019.07 - 2022.03	R&D Engineer	Spreadtrum Communications (Shanghai) Co., Ltd.
2016.09 - 2019.06	Master	Nanjing University of Information Science & Technology

Selected Works After 2020

Journal Papers as First Author:

1. **Yu Qiao**, H. Q. Le, M. Zhang, A. Adhikary, C. Zhang, and C. S. Hong, "FedCCL: Federated dual-clustered feature contrast under domain heterogeneity," ***Information Fusion (INFFUS)***, JCR Q1, 2025.

2. **Yu Qiao**, M. S. Munir, A. Adhikary, H. Q. Le, A. D. Raha, C. Zhang, C. S. Hong, "MP-FedCL: Multiprototype Federated Contrastive Learning for Edge Intelligence," ***IEEE Internet of Things Journal (IEEE IoTJ)***, JCR Q1, 2024.

3. **Yu Qiao**, C. Zhang, A. Adhikary, and C. S. Hong, "Logit Calibration and Feature Contrast for Robust Federated Learning on Non-IID Data," ***IEEE Transactions on Network Science and Engineering (IEEE TNSE)***, JCR Q1, 2025.

4. **Yu Qiao**, A. Adhikary, k. Kim, E.-N. Huh, Z. Han, and C. S. Hong, "Federated hybrid training and self-adversarial distillation: Towards robust edge networks," ***IEEE Transactions on Network Science and Engineering (IEEE TNSE)***, JCR Q1, 2025.

5. **Yu Qiao**, P.-N. Tran, J. S. Yoon, L. X. Nguyen, E.-N. Huh, D. Niyato, and C. S. Hong, "DeepSeek-Inspired Exploration of RL-based LLMs and Synergy with Wireless Networks: A Survey," ***ACM Computing Survey (CSUR)***, JCR Q1, 2025.

6. **Yu Qiao**, Z. Jin, A. D. Raha, A. Adhikary, E.-N. Huh, D. Niyato, Z. Han, and C. S. Hong, "Robust Federated Learning with Heterogeneous Clients via Classifier Calibration and Alignment," ***IEEE Internet of Things Journal (IEEE IoTJ)***, JCR Q1, 2025.

Conference Papers as First Author:

1. **Yu Qiao**, M. S. Munir, A. Adhikary, A. D. Raha, and C. S. Hong, "CDFed: Contribution-based Dynamic Federated Learning for Managing System and Statistical Heterogeneity," **IEEE/IFIP Network Operations and Management Symposium (IEEE NOMS)**, 2023.

2. **Yu Qiao**, C. Zhang, H. Q. Le, A. D. Raha, A. Adhikary and C. S. Hong, "Knowledge Distillation in Federated Learning: Where and How to Distill?," **IEEE Asia-Pacific Network Operations and Management Symposium (IEEE APNOMS)**, 2023.

3. **Yu Qiao**, M. S. Munir, A. Adhikary, A. D. Raha, S. H. Hong, and C. S. Hong, "A Framework for Multi-Prototype Based Federated Learning: Towards the Edge Intelligence," **IEEE International Conference on Information Networking (IEEE ICOIN)**, 2023.

4. **Yu Qiao**, A. Adhikary, K. T. Kim, C. Zhang and C. S. Hong, "Knowledge Distillation Assisted Robust Federated Learning: Towards Edge Intelligence,", **IEEE International Conference on Communications (IEEE ICC)**, 2024 (IEEE Communications Society's flagship conference).

5. **Yu Qiao**, A. Adhikary, C. Zhang and C. S. Hong, "Towards Robust Federated Learning via Logits Calibration on Non-IID Data," **IEEE Network Operations and Management Symposium (IEEE NOMS)**, 2024.

6. **Yu Qiao**, P.-N. Tran and C. S. Hong, "A Distribution-Aware Robust Federated Learning Framework for Mobile Edge Networks," **IEEE International Conference on Information Networking (IEEE ICOIN)**, 2025.

7. **Yu Qiao**, H. Kim, Y. M. Park, E.-N. Huh, and C. S. Hong, "Mitigating Label Skewness in Robust Federated Learning via Feature Synthesis," **IEEE Asia-Pacific Network Operations and Management Symposium (IEEE APNOMS)**, 2025.

Other Journal Papers as Co-Author:

1. A. Adhikary, A. D. Raha, **Yu Qiao**, Walid Saad, Z. Han and C. S. Hong, "Holographic MIMO With Integrated Sensing and Communication for Energy-Efficient Cell-Free 6G Networks," **IEEE Internet of Things Journal**, 2024.

2. A. Adhikary, M. S. Munir, A. D. Raha, **Yu Qiao**, Z. Han and C. S. Hong, "Integrated Sensing, Localization, and Communication in Holographic MIMO-Enabled Wireless Network: A Deep Learning Approach," in **IEEE Transactions on Network and Service Management**, 2024.

3. H. Q. Le, Minh N. H. Nguyen, Chu Myaet Thwal, **Yu Qiao**, C. Zhang, and C. S. Hong, "Fedmekt: Distillation-based embedding knowledge transfer for multimodal federated learning," **Neural Networks**, 2024.

4. H. Q. Le, Chu Myaet Thwal, **Yu Qiao**, Ye Lin Tun, Minh N. H. Nguyen, E.-N. Huh, and C. S. Hong, "Cross-modal prototype based multimodal federated learning under severely missing modality," **Information Fusion**, 2025.

5. Z. Jin, **Yu Qiao**, "A novel node selection scheme for energy-efficient cooperative spectrum sensing using D–S theory," **Wireless Networks**, 2020.

6. A. Adhikary, **Yu Qiao**, A. D. Raha, Luyao Zou, Mrityunjoy Gain, Z. Han, and C. S. Hong, " An Age of Service and Transformer-Driven Transfer Learning Framework for Holographic MIMO-Enabled 6G Networks," **IEEE Transactions on Network Science and Engineering**, 2025.

7. A. D. Raha, k. Kim, A. Adhikary, Mrityunjoy Gain, **Yu Qiao**, Z. Han, C. S. Hong, "Boosting federated domain generalization: Understanding the role of advanced pre-trained architectures" **IEEE Internet of Things Journal**, 2025.

Other Conference Papers as Co-Author:

1. H. Q. Le, **Yu Qiao**, L. X. Nguyen, Luyao Zou, and C. S. Hong, "Federated multimodal learning for iot applications: A contrastive learning approach," in **Asia-Pacific Network Operations and Management Symposium (APNOMS)**, 2023.

2. A. Adhikary, A. D. Raha, **Yu Qiao**, Yu Min Park, Z. Han and C. S. Hong, "A Power Allocation Framework for Holographic MIMO-Aided Energy-Efficient Cell-Free Networks," **IEEE International Conference on Communications**, Denver, CO, 2024 (IEEE Communications Society's flagship conference).

3. A. Adhikary, A. D. Raha, **Yu Qiao**, Seok Won Kang, C. S. Hong, "Transfer Learning Empowered Power Allocation in Holographic MIMO-enabled Wireless Network," **IEEE Network Operations and Management Symposium**, Seoul, Korea, Republic of, 2024.

4. A. Adhikary, A. D. Raha, **Yu Qiao**, G. F. Ejigu, Sun Moo Kang, E.-N. Huh, and C. S. Hong, "Intelligent Omni Surface-Assisted Cell-Free Massive MIMO System for 6G Wireless Network," **International Conference on Advanced Technologies for Communications (ATC)**, Da Nang, Vietnam, 2023 (Best Paper Award).

5. A. Adhikary, A. D. Raha, **Yu Qiao**, M. S. Munir, Ki tae Kim, C. S. Hong, "Transformer-based Communication Resource Allocation for Holographic Beamforming: A Distributed Artificial Intelligence Framework," **Asia-Pacific Network Operations and Management Symposium (APNOMS)**, Sejong, Korea, Republic of, 2023.

6. A. Adhikary, M. S. Munir, A. D. Raha, **Yu Qiao** and C. S. Hong, "Artificial Intelligence Framework for Target Oriented Integrated Sensing and Communication in Holographic MIMO," **IEEE/IFIP Network Operations and Management Symposium**, Miami, FL, 2023.

7. A. Adhikary, M. S. Munir, A. D. Raha, **Yu Qiao**, S. H. Hong, E. N. Huh, and C. S. Hong, "An Artificial Intelligence Framework for Holographic Beamforming: Coexistence of Holographic MIMO and Intelligent Omni-Surface," **International Conference on Information Networking (ICOIN)**, Bangkok, Thailand, 2023.

8. A. D. Raha, A. Adhikary, M. S. Munir, **Yu Qiao** and C. S. Hong, "Segment Anything Model Aided Beam Prediction for the Millimeter Wave Communication," **Asia-Pacific Network Operations and Management Symposium (APNOMS)**, Sejong, Korea, Republic of, 2023.

9. A. D. Raha, M. S. Munir, A. Adhikary, **Yu Qiao**, S. B. Park and C. S. Hong, "An Artificial Intelligent-Driven Semantic Communication Framework for Connected Autonomous Vehicular Network," **International Conference on Information Networking (ICOIN)**, Bangkok, Thailand, 2023.