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Bio. Peichun received both his B.E. and M.Sc. degrees from Guangdong University of Technology. He is currently pursuing his Ph.D. degree in Computer Science at the University of Macau. His research interests cover the broad area of **deep learning**, **distributed system** and **edge computing**, with a focus on **federated learning**, **generative AI** and **efficient algorithms for AI applications**.

Education

Aug. 2024 – Present	**Ph.D. Student**, *University of Macau* Department of Computer and Information Science. *Advisor : Prof. Yuan Wu*
Sept. 2018 – June 2021	**Master of Science**, *Guangdong University of Technology* Department of Control Science and Engineering. *Advisor : Prof. Rong Yu* The recipient of *National Scholarship for Graduate Students*
Sept. 2014 – June 2018	**Bachelor of Engineering**, *Guangdong University of Technology* Department of Electronic Information Engineering. *Advisor : Prof. Rong Yu* The recipient of *National Scholarship for Undergraduates*

Selected Publications

- **Peichun Li**, Hanwen Zhang, Yuan Wu, Liping Qian, Rong Yu, Dusit Niyato, and Xuemin Shen. "Filling the Missing : Exploring Generative AI for Enhanced Federated Learning over Heterogeneous Mobile Edge Devices," *IEEE Transactions on Mobile Computing* vol. 23, no. 10, pp. 10001-10015, Oct. 2024. (CCF-A, JCR Q1)
- **Peichun Li**, Huanyu Dong, Liping Qian, Sheng Zhou, and Yuan Wu, "FlexGen : Efficient On-Demand Generative AI Service with Flexible Diffusion Model in Mobile Edge Networks," *IEEE Transactions on Cognitive Communications and Networking*, vol. 11, no. 2, pp. 961-973, Apr. 2025. (JCR Q1)
- **Peichun Li**, Guoliang Cheng, Xumin Huang, Jiawen Kang, Rong Yu, Yuan Wu, and Miao Pan. "AnycostFL : Efficient On-Demand Federated Learning over Heterogeneous Edge Devices," in *Proceedings of IEEE INFOCOM*, 2023. (CCF-A Conference)
- **Peichun Li**, Guoliang Cheng, Xumin Huang, Jiawen Kang, Rong Yu, Yuan Wu, Miao Pan, and Dusit Niyato. "Snowball : Energy Efficient and Accurate Federated Learning with Coarse-to-Fine Compression over Heterogeneous Edge Devices," *IEEE Transactions on Wireless Communications*, vol. 22, no. 10, pp. 6778-6792, Oct. 2023. (JCR Q1)
- **Peichun Li**, Yupei Zhong, Chaorui Zhang, Yuan Wu, and Rong Yu. "FedRelay : Federated Relay Learning for 6G Mobile Edge Intelligence," *IEEE Transactions on Vehicular Technology*, vol. 72, no. 4, pp. 5125-5138, April 2023. (JCR Q1)
- **Peichun Li**, Xumin Huang, Miao Pan, and Rong Yu. "FedGreen : Federated Learning with Fine-Grained Gradient Compression for Green Mobile Edge Computing," in *Proceedings of IEEE Global Communications Conference (GlobeCom)*, 2021.
- **Peichun Li**, Guoliang Cheng, Jiawen Kang, Rong Yu, Liping Qian, Yuan Wu, and Dusit Niyato. "FAST : Fidelity-Adjustable Semantic Transmission over Heterogeneous Wireless Networks," in *Proceedings of IEEE ICC*, 2023.
- Rong Yu (Advisor) and **Peichun Li**. "Toward Resource-Efficient Federated Learning in Mobile Edge Computing," *IEEE Network*, vol. 35, no. 1, pp. 148-155, January/February 2021. (JCR Q1)
- Xumin Huang, **Peichun Li**, Rong Yu, Yuan Wu, *et al*. "FedParking : A Federated Learning based Parking Space Estimation with Parked Vehicle assisted Edge Computing," *IEEE Transactions on Vehicular Technology*, vol. 70, no. 9, pp. 9355-9368, Sept. 2021. (JCR Q1)
- Tianshun Wang, **Peichun Li**, Yuan Wu, Liping Qian, Zhou Su, and Rongxing Lu, "Quantum-Empowered Federated Learning in Space-Air-Ground Integrated Networks," *IEEE Network*, vol. 38, no. 1, pp. 96-103, Jan. 2024. (JCR-Q1)
- Xumin Huang, **Peichun Li**, and Rong Yu. "Social Welfare Maximization in Container-Based Task Scheduling for Parked Vehicle Edge Computing," *IEEE Communications Letters*, vol.23, no.8, pp.1347-1351, June 2019. (JCR Q2)
- Tianshun Wang, **Peichun Li**, Panpan Feng, Xin Wei, Liping Qian, and Yuan Wu, "Compression Meets Security : Low-Complexity Linear Collaborative Federated Learning with Enhanced Accuracy," *IEEE Transactions on Mobile Computing*, May 2025, DOI : 10.1109/TMC.2025.3569669. (JCR Q1, CCF-A)

Academic Services

- Technical Program Committee (TPC) Member for leading IEEE conferences, including IEEE Globecom, HPCC, ICCC, INFOCOM ICCN, and VTC.
- Reviewer for journals such as IEEE TMC, IEEE TWC, IEEE Network, IEEE TVT, IEEE TNSE, IEEE TCCN, IEEE IoTJ, IEEE/CIC China Communications, and Elsevier Computer Networks, among others.