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JOURNAL ARTICLES

- J1 **S. Tariq** and S. Chatzinotas, “[Design and Optimization of Adaptive Diversity Schemes in Quantum MIMO Channels](#),” *npj Quantum Information*, Jun. 2026.
- J2 N. Lae, **S. Tariq**, S. N. Paing, J. W. Setiawan, S. Kim, T. Q. Duong, and H. Shin, “[Counterfactual Quantum Secret Sharing](#),” *IEEE Transactions on Communications*, vol. 73, no. 10, pp. 9196–9206, 2025.
- J3 B. E. Arfeto, **S. Tariq**, U. Khalid, T. Q. Duong, and H. Shin, “[GenSC-6G: A Prototype Testbed for Integrated Generative AI, Quantum, and Semantic Communication](#),” *IEEE Communications Magazine*, vol. 63, no. 10, pp. 28–35, 2025.
- J4 **S. Tariq**, B. E. Arfeto, U. Khalid, S. Kim, T. Q. Duong, and H. Shin, “[Deep Quantum-Transformer Networks for Multimodal Beam Prediction in ISAC Systems](#),” *IEEE Internet of Things Journal*, vol. 11, no. 18, pp. 29387–29401, 2024.
- J5 **S. Tariq**, A. Farooq, J. ur Rehman, T. Q. Duong, and H. Shin, “[Efficient Quantum State Estimation with Low-Rank Matrix Completion](#),” *EPJ Quantum Technology*, vol. 11, no. 1, art. 50, 2024.
- J6 **S. Tariq**, U. Khalid, B. E. Arfeto, T. Q. Duong, and H. Shin, “[Integrating Sustainable Big AI: Quantum Anonymous Semantic Broadcast](#),” *IEEE Wireless Communications*, vol. 31, no. 3, pp. 86–99, 2024.
- J7 S. N. Paing, J. W. Setiawan, **S. Tariq**, M. T. Rahim, K. Lee, and H. Shin, “[Counterfactual Anonymous Quantum Teleportation in the Presence of Adversarial Attacks and Channel Noise](#),” *Sensors*, vol. 22, no. 19, art. 7587, 2022.

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- C1 **S. Tariq**, J. ur Rehman, and S. Chatzinotas, “[Quantum MIMO Diversity Framework Using Approximate Cloning and Probabilistic Purification](#),” in *Proceedings - 2026 International Conference on Quantum Communications, Networking, and Computing, QCNC 2026*, Kobe, Japan, pp. 29–36, 2026.
- C2 B. E. Arfeto, **S. Tariq**, and H. Shin, “Edge Diffusion Model for Enhanced Resolution in Semantic Communication,” in *Proc. Korea Information and Communications Society (KICS) Fall Conference*, Gyeongju, Korea, pp. 230–232, Nov. 2024.
- C3 P. M. Min, B. E. Arfeto, **S. Tariq**, and H. Shin, “Quantum-Augmented LSTM Networks for Stock Price Forecasting,” in *Proc. Korea Information and Communications Society (KICS) Fall Conference*, Gyeongju, Korea, pp. 221–222, Nov. 2024.
- C4 M. Talha, **S. Tariq**, and H. Shin, “Recent Advances in Quantum Reservoir Computing,” in *Proc. Korea Information and Communications Society (KICS) Fall Conference*, Gyeongju, Korea, Nov. 2024.
- C5 **S. Tariq**, J. ur Rehman, and H. Shin, “Quantum Reinforcement Learning for Digital Twin Placement in 6G Networks,” in *Proc. Joint Conference on Communications and Information (JCCI)*, Busan, Korea, Apr. 2024.
- C6 **S. Tariq**, B. E. Arfeto, H. Jung, and H. Shin, “[Beam Prediction in mmWave V2I Communications with Quantum Transformer Networks](#),” in *ICTC 2024 - 15th International Conference on ICT Convergence: AI-Empowered Digital Innovation*, Jeju Island, Korea, pp. 488–493, 2024.
- C7 **S. Tariq**, M. S. Ulum, A. W. Shaffar, W. Park, S. Kim, and H. Shin, “[Multi-Agent Quantum Reinforcement Learning for Digital Twin Placement in 6G Multi-Tier Systems](#),” in *Industrial Networks and Intelligent Systems - 10th EAI International Conference, INISCOM 2024, Proceedings*, Da Nang, Vietnam, pp. 73–92, 2024.
- C8 A. U. Haque, **S. Tariq**, H. Jung, and H. Shin, “Quantum Approximate Optimization for Optimal EV Charging Schedules,” in *Proc. Joint Conference on Communications and Information (JCCI)*, Yeosu, Korea, Apr. 2023.
- C9 U. I. Paracha, **S. Tariq**, M. Choi, and H. Shin, “Bit-Flip Error Mitigation Using Deep Learning,” in *Proc. Korea Information and Communications Society (KICS) Winter Conference*, Pyeongchang, Korea, pp. 22–23, Feb. 2023.
- C10 A. U. Haque, **S. Tariq**, H. Jung, and H. Shin, “Prototyping a Quantum Clustering Algorithm for NISQ Computing,” in *Proc. Korea Information and Communications Society (KICS) Winter Conference*, Pyeongchang, Korea, pp. 20–21, Feb. 2023.
- C11 **S. Tariq**, K. Lee, and H. Shin, “Deep Learning Assisted Quantum State Tomography,” in *Proc. Korea Information and Communications Society (KICS) Fall Conference*, Gyeongju, Korea, Nov. 2022.
- C12 A. W. Shaffar, **S. Tariq**, and H. Shin, “Quantum Convolutional Neural Networks for Binary Classification,” in *Proc. Korea Information and Communications Society (KICS) Fall Conference*, Gyeongju, Korea, pp. 211–212, Nov. 2022.
- C13 A. W. Shaffar, M. A. Ullah, **S. Tariq**, and H. Shin, “Experimental Benchmarking Between IBM Quantum Computing Systems,” in *Proc. Korea Information and Communications Society (KICS) Summer Conference*, Jeju, Korea, pp. 924–925, Jun. 2022.

- C14 **S. Tariq**, A. Farooq, and H. Shin, “Robust Quantum State Tomography with Linear Regression,” in *Proc. Korea Information and Communications Society (KICS) Summer Conference*, Jeju, Korea, pp. 918–919, Jun. 2022.
- C15 **S. Tariq**, A. Farooq, J. ur Rehman, and H. Shin, “Error Analysis of Gate and Pulse Model Quantum Circuits,” in *Proc. Korea Information and Communications Society (KICS) Winter Conference*, Pyeongchang, Korea, pp. 656–657, Feb. 2022.

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- P1 **S. Tariq**, M. Talha, A. Ali, M. Diyan, and S. Chatzinotas, “Quantum Reservoir Computing: Recent Advances and Future Directions,” arXiv:2607.18552, Jul. 2026.
- P2 L. Oleynik, **S. Tariq**, and S. Chatzinotas, “Optimal GHZ-State Distribution in LOSR Quantum Networks via Local Decoding from Information Sets,” arXiv:2606.21500, Jun. 2026.
- P3 J. ur Rehman, **S. Tariq**, and S. Chatzinotas, “Quantum Key Distribution Without Shared Reference Frame Under Unital Noise,” arXiv:2606.23239, Jun. 2026.
- P4 J. Kaldari, **S. Tariq**, S. Al-Kuwari, S. Y. Chen, S. Chatzinotas, and H. Shin, “Quantum Reinforcement Learning: Recent Advances and Future Directions,” arXiv:2510.14595, Oct. 2025.
- P5 **S. Tariq**, M. Talha, S. Chatzinotas, and H. Shin, “Towards Quantum Enhanced Adversarial Robustness with Rydberg Reservoir Learning,” arXiv:2510.13473, Oct. 2025.
- P6 **S. Tariq**, J. ur Rehman, and S. Chatzinotas, “Quantum MIMO Diversity over Discrete-Variable Crosstalk Channels,” arXiv:2508.07344, Aug. 2025.
- P7 C. Zhang, Y. Qiao, **S. Tariq**, S. Zheng, C. Zhang, C. Li, H. Shin, and C. S. Hong, “Understanding Segment Anything Model: SAM is Biased Towards Texture Rather than Shape,” arXiv:2311.11465, Nov. 2023.
- P8 **S. Tariq**, B. E. Arfeto, C. Zhang, and H. Shin, “Segment Anything Meets Semantic Communication,” arXiv:2306.02094, Jun. 2023.
- P9 M. Awais, Q. Abbas, **S. Tariq**, and S. H. Warraich, “Blockchain Based Secure Energy Marketplace Scheme to Motivate Peer to Peer Microgrids,” arXiv:2206.07248, Jun. 2022.