

LIST OF PUBLICATIONS

Patent

1. A. Kalita, "A System and Method for Improving the Performance of IEEE 802.15.4 and IEEE 802.15.4e standardized Internet of Things Networks". [Indian Patent Filed on 28/03/2025; Ref No: 202531029706]
2. A. Kalita, "An Internet of Things (IoT) enabled System and Process for real-time Monitoring of an Infant to Prevent Falling Off a Surface above Ground level". [Indian Patent Filed on 24/10/2024; Ref No: 202431081152]

Journals

16. P. Joshi, A. Kalita, and M. Gurusamy, "Reliable and Efficient Data Collection in UAV based IoT Networks" in *IEEE Communications Surveys and Tutorials*, I.F: 34.1, 2025. (Accepted) [PDF](#)
15. A. Hazra, A. Kalita, M. Gurusamy, and D. Sah, "Potential of Zero-Touch Network Management in Industry 5.0: A Future Prospect" in *IEEE Internet Computing*, I.F: 3.7, vol: 28, no: 6, pp: 45 - 52, 2024. [PDF](#)
14. A. Kalita, and M. Gurusamy, "On-the-Fly Autonomous Slot Allocation in 6TiSCH-based Industrial IoT Networks", *IEEE Transactions on Industrial Informatics*, IF-12.34, 2024, (Accepted). [PDF](#)
13. A. Hazra, A. Kalita, and M. Gurusamy, "Distributed Service Provisioning with Collaboration of Edge and Cloud in Industry 5.0", *IEEE Internet of Things Journal*, I.F: 10.6, vol. 11, no. 12, pp. 21885-21894, 2024. [PDF](#)
12. A. Hazra, P. Maurya, A. Kalita, S. Deb, M. Gurusamy, and V. G. Menon, "Cognitive Computing and Machine Intelligence in Fog-Cloud Infrastructure for Industry 5.0" in *IEEE Consumer Electronics Magazine*, I.F: 4.5, 2024 (Accepted). [PDF](#)
11. A. Hazra, A. Kalita, and M. Gurusamy, "Meeting the Requirements of Internet of Things: The Promise of Edge Computing", *IEEE Internet of Things Journal*, IF-11.7, 2023, (Accepted). [PDF](#)
10. A. Kalita, A. Hazra, and M. Gurusamy, "Parrando's Paradox based Enhanced Beacon Transmission in 6TiSCH Networks", *IEEE Networking Letters*, IF-NA, vol. 5, no. 4, pp. 204-207, 2023. [PDF](#)
9. A. Kalita, M. Gurusamy, and M. Khatua "A Gaming and Trust Model based Counter Measure for DIS Attack on 6TiSCH IoT Networks", in *IEEE Internet of Things Journal*, IF-11.7, vol. 10, no. 11, pp. 9727-9737, 2023. [PDF](#)
8. A. Kalita and M. Khatua, "Time-Variant RGB Model for Minimal Cell Allocation and Scheduling in 6TiSCH Networks," in *IEEE Transactions on Mobile Computing*, IF-7.9, vol. 23, no. 2, pp. 1803 - 1814, 2023. [PDF](#)
7. A. Kalita and M. Khatua, "6TiSCH – IPv6 Enabled Open Stack IoT Network Formation: A Review," in *ACM Transactions on Internet of Things*, IF-2.7, vol. 3, no. 24, pp. 1-36, 2022. [PDF](#)
6. A. Kalita, A. Brighente, M. Khatua, and M. Conti, "Effect of DIS Attack on 6TiSCH Network Formation," in *IEEE Communications Letters*, IF-3.55, vol. 26, no. 5, pp. 1190-1193, May, 2022. [PDF](#)
5. A. Kalita and M. Khatua, "A Non-cooperative Gaming Approach for Control Packet Transmission in 6TiSCH Network," in *IEEE Internet of Things Journal*, IF-11.7, vol. 9, no. 5, pp. 3954-3961, 2022. [PDF](#)
4. A. Kalita and M. Khatua, "Adaptive Control Packet Broadcasting Scheme for Faster 6TiSCH Network Bootstrapping," in *IEEE Internet of Things Journal*, IF-11.7, vol. 8, no. 24, pp. 17395–17402, 2021. [PDF](#)
3. A. Kalita and M. Khatua, "Autonomous Allocation and Scheduling of Minimal Cell in 6TiSCH Network," in *IEEE Internet of Things Journal*, IF-11.7, vol. 8, no. 15, pp. 12242-12250, 2021. [PDF](#)

2. A. Kalita and M. Khatua, "Opportunistic Transmission of Control Packets for Faster Formation of 6TiSCH Network," in [ACM Transactions on Internet of Things](#), IF-2.7, vol. 2, no. 1, pp. 1-29, 2021. [PDF](#)
1. A. Kalita and M. Khatua, "Channel Condition Based Dynamic Beacon Interval for Faster Formation of 6TiSCH Network," in [IEEE Transactions on Mobile Computing](#), IF-7.9, vol. 20, no. 7, pp. 2326–2337, 2021. [PDF](#)

Conferences

15. A. Kalita, "6TiSCH-Sim: an Efficient Simulator and Cell Scheduling Scheme for 6TiSCH Industrial IoT Networks" in IEEE National Conference on Communications (NCC'2025). (Accepted)
14. V. Tummala, A. Hazra, A. Kalita, M. Gurusamy, "Cluster Based Pseudo Hierarchical Decentralized Federated Learning in UAV Networks" in IEEE 99th Vehicular Technology Conference (VTC-Fall'2024). [PDF](#)
13. V. Tummala, A. Hazra, A. Kalita, M. Gurusamy, "Efficient Task Offloading through Federated Learning in UAV-Assisted Edge Networks" in IEEE 99th Vehicular Technology Conference (VTC), 2024. [PDF](#)
12. P. Joshi, A. Kalita, M. Gurusamy, "Securing the Skies: An IRS-Assisted AoI-Aware Secure Multi-UAV System with Efficient Task Offloading" in IEEE 99th Vehicular Technology Conference (VTC), 2024. [PDF](#)
11. A. Kalita, A. Hazra, and M. Gurusamy, 'RIM: Reputation-Based Incentives for Optimizing Service Pricing in Metaverse', In Proc. of IEEE Future Networks World Forum, USA, Baltimore (FNWF), 2023. [PDF](#)
10. V. Sebastiani*, A. Kalita*, and M. Gurusamy, 'Dynamic Resource Allocation and Pricing for Edge-Assisted Metaverse', In Proc. of IEEE Future Networks World Forum, USA, Baltimore (FNWF), 2023. [PDF](#)
9. A. Hazra, B. Mali, A. Kalita, and M. Gurusamy, 'Federated Learning for Cost Optimized Offloading in Edge-enabled Industrial Internet of Things', In Proc. of IEEE Future Networks World Forum, USA, Baltimore (FNWF), 2023. [PDF](#)
8. A. Hazra, A. Kalita, and M. Gurusamy, 'A Combined Approach of Industrial Edge Computing and Machine Learning for Predictive Maintenance', In IEEE GLOBECOM WKSHPS: AI/ML for Edge/Fog Networks program (GLOBECOM - A4E), 2023. [PDF](#)
7. A. Kalita, A. Hazra, and M. Gurusamy, "Efficient Schemes for Improved Performance in 6TiSCH Networks", In IEEE INFOCOM WKSHPS: The 10th International Workshop on Computer and Networking Experimental Research using Testbeds (INFOCOM - CNERT), 2023, [PDF](#).
6. A. Kalita and M. Khatua, "Opportunistic Priority Alternation Scheme for Faster Formation of 6TiSCH Network," In Proc. of the International Conference on Distributed Computing and Networking (ICDCN), 2020. [PDF](#)
5. A. Kalita and M. Khatua, "Faster Joining in 6TiSCH Network using Dynamic Beacon Interval", In Proc. of the International Conference on Communication Systems Networks (COMSNETS), 2019. [PDF](#)
4. A. Kalita, N. Ahmed, H. Rahman, and M. I. Hussain, "A QoS-aware MAC protocol for large-scale networks in Internet of Things," In Proc. of the International Conference on Advanced Networks and Telecommunications Systems (ANTS), 2017. [PDF](#)
3. A. Kalita, K. Ray, A. Biswas, and M. A. Hussain, "A topology for network-on-chip", In Proc. of the International Conference on Information Communication and Embedded Systems (ICICES), 2016. [PDF](#)
2. K. Ray, A. Kalita, A. Biswas, and M. A. Hussain, "A multipath network on-chip topology", In Proc. of the International Conference on Information Communication and Embedded Systems (ICICES), 2016. [PDF](#)
1. A. Biswas, M. A. Hussain, and A. Kalita, "An improved congestion free modified fat tree network", In Proc. of the International Conference on Signal Processing, Communication, Power and Embedded System (SCOPES), 2016. [PDF](#)

Book Chapter

1. A. Hazra, P. Maurya, [A. Kalita](#), I. Sarkar, “Offloading Strategies and Computing Paradigms in IoT: A Survey”, in book “IoT Sensors, ML, AI and XAI: Empowering A Smarter World. Smart Sensors, Measurement and Instrumentation”, vol 50. Springer. [PDF](#)

Technical Report

1. [A. Kalita](#), “Contiki-NG, CC2650 IoT devices, and FIT IoT-LAB.” [PDF](#)

Pre-print

1. [A. Kalita](#), “Large Language Models (LLMs) for Semantic Communication in Edge-based IoT Networks” arXiv, 2024. [PDF](#)
2. [A. Kalita](#) and M. Gurusamy, “D2R2: Distributed and Dynamic Reputation based Resource Allocation in Meta-verse”, TechXiv, 2022. [PDF](#)

SIMULATOR

1. [A. Kalita](#), “6TiSCH Cell Allocation Simulator” [<GitHub>](#)