Ratna Rani Sarkar
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OVERVIEW

Currently pursuing a PhD in Computer Science and Engineering with significant experience in university-level teaching. Research interests include Ad-Hoc Networks, disaster management, and emergency communication systems.

RESEARCH INTEREST

- Ad-Hoc Network
- Pocket Switched Network (PSN)
- Delay Tolerant Network (DTN)
- Internet of Things (IoT)
- Disaster Management Communication Systems

REFEREED PUBLICATIONS

1. Hossain, S., **Sarkar, R.R.,** Yousuf, M.A., Ali Moni, M. (2025). IoT-Enabled Health Assistance for Post-disaster Scenarios. In: Mahmud, M., Kaiser, M.S., Bandyopadhyay, A., Ray, K., Al Mamun, S. (eds) Proceedings of Trends in Electronics and Health Informatics. TEHI 2023. Lecture Notes in Networks and Systems, vol 1034. Springer, Singapore. https://doi.org/10.1007/978-981-97-3937-0_44
2. **R. R. Sarkar**, A. Chakrabarty and M. Z. Rahman(2026) Post-Disaster Resilient Communication Through Infrastructure-Free Networks. Journal of ICT Research and Applications (Accepted)
3. Islam, Md & Roy, Sujan & Utsho, Md & Naznin, Laila & Sarkar, Ripa & **R Sarkar, Ratna.** (2024). An IoT-Enabled Intelligent Water Quality Monitoring System for Tourist Safety Using Machine Learning. 10.21203/rs.3.rs-5488426/v1.
4. R. Islam, R. Sarkar and **R. R. Sarkar,** "Integrated Blood Donation System with Smart Vending Machines," *2024 3rd International Conference on Advancement in Electrical and Electronic Engineering (ICAEEE)*, Gazipur, Bangladesh, 2024, pp. 1-5, doi: 10.1109/ICAEEE62219.2024.10561675.
5. **Ratna R. Sarkar**, Mohammad Zahidur Rahma (2025). Enhancing Resilience in Communication Networks for Post-Disaster Response .Journal of Information Systems Engineering and Management, 10(22s), 551 - 559.
6. M. S. Hossain, R. Sarkar and **R. R. Sarkar**, "IoT Based Smart Headgear for Motorbike," *2024 3rd International Conference on Advancement in Electrical and Electronic Engineering*

(ICAEEE), Gazipur, Bangladesh, 2024, pp. 1-6, doi: 10.1109/ICAEEE62219.2024.10561660.

7. **Sarkar, R. R.** ., Chakrabarty, A. ., & Rahman, M. Z. . (2024). Resilient Connectivity: Leveraging Pocket Switched Networks for Post-Disaster Communication. *International Journal of Intelligent Systems and Applications in Engineering*, *12*(20s), 293–300. Retrieved from https://ijisae.org/index.php/IJISAE/article/view/5141
8. Ripa Sarkar and **Ratna R. Sarkar** (2023), "Sentimental Analysis of Various TV Serials inSociety" *2023 15th International Conference on Computational Intelligence and Communication Networks (CICN)*, Bangkok, Thailand.
9. **Ratna R. Sarkar** , Md.Nazrul Islam , Rabiul Islam , Md. Shiblu Hasan , and Mohammad Zahidur Rahman ,"Empowering Resilience in Post-Disaster Communication with Low-End Communication Devices"2023 26th International Conference on Computer and Information Technology (ICCIT) 13-15 December 2023, Cox's Bazar, Bangladesh.
10. **R. R. Sarkar,** A. Chakrabarty and M. Z. Rahman (2022), "Low-End Hand Held Communication Devices in a Post-Disaster Scenario," *2022 14th International Conference on Computational Intelligence and Communication Networks (CICN)*, Al-Khobar, Saudi Arabia, pp. 595-599.
11. **Ratna. R. Sarkar** and M. Z. Rahman (2022), "Transmission Power and Quality of service in MANET Routing Protocol,"International Journal of Wireless & Mobile Networks (IJWMN), Vol.14, No.4.
12. **R. R. Sarkar,** A. Chakrabarty and M. Z. Rahman (2022), "Mobile Ad-hoc Networks: A Reviews on Routing Protocols," Jahangirnagar University Journal of Science, Volumn 43(1), 2021.
13. **Ratna R. Sarkar**, Amitabha Chakrabarty and Mohammad Zahidur Rahman (2021) VANET Routing Protocols in Real-World Mobility Tracing 13th International Conference on Computational Intelligence and Communication Networks (CICN).
14. **R.R. Sarkar**, K. Rasul, and A. Chakrabarty, (2015) Survey on Routing in Pocket Switched Network.Wireless Sensor Network, 7, 113-128.
15. **R.R. Sarkar**, K. Rasul, and A. Chakrabarty, (2015), Energy Efficient Routing (EER) Algorithm for Pocket Switched Network, International Journal of Computer Science and Network *(*IJCSN*),* 5, 80-86.
16. Mostakim, Md Niaz **& Sarkar, Ratna** & Hossain, Md. (2019). Smart Locker: IOT-based Intelligent Locker with Password Protection and Face Detection Approach. International Journal of Wireless and Microwave Technologies. 9. 1-10.
17. "General Theorem & Applications of Manifolds with Connection", Sharmin Akter, Umme Ruman, **Ratna Rani Sarkar**, IAmerican Journal of Engineering Research (AJER),Volume-7, Issue-11, pp-206-218
18. (Book Chapter Publication) **R.R. Sarkar**, K. Rasul, and A. Chakrabarty, (2016), Routing Protocol for Pocket Switched Network, LAMBERT Academic Publishing (LAP).

EDUCATION

PhD in Computer Science and Engineering (Pursuing)
Thesis Topic: Communication in Post Disaster Scenario using Ad-Hoc Network

M.Sc. in Computer Science and Engineering (Achieved Highest Distinction)
Thesis Topic: Routing protocols in Pocket Switched Network.

B.Sc. in Computer Science and Engineering (Achieved Highest Distinction)

AWARD

Vice Chancellor's Medal 2016:

- Achieved the Vice Chancellor's Medal having obtained the highest CGPA in the degree of MSc in CSE .

JOB EXPERIENCES

Assistant Professor (CS)	National University, Bangladesh Present
Assistant Professor (CSE)	Atish Dipankar University of Science & Technology. 29th June 2018 - 13th February 2024.
Lecturer (CSE)	Atish Dipankar University of Science & Technology. 10th June 2014 -28th June 2018.