

Research Publications

Journal Articles

- 1 **K Sowjanya** and M. Dasgupta, "A ciphertext-policy attribute-based encryption scheme for wireless body area networks based on *ECC*," *Journal of Information Security and Applications*, vol. 54, 2020, Q1, IF: 3.7.  DOI: 10.1016/j.jisa.2020.102559.
- 2 **K Sowjanya**, M. Dasgupta, and S. Ray, "A lightweight key management scheme for key-escrow-free ecc-based cp-abe for iot healthcare systems," *Journal of Systems Architecture*, vol. 117, 2021, Q1, IF: 4.1.  DOI: 10.1016/j.sysarc.2021.102108.
- 3 **K Sowjanya**, M. Dasgupta, and S. Ray, "An elliptic curve cryptography based enhanced anonymous authentication protocol for wearable health monitoring systems," *International Journal of Information Security*, vol. 19, 2020, Q1, IF: 3.2.  DOI: 10.1007/s10207-019-00464-9.
- 4 **K Sowjanya**, M. Dasgupta, and S. Ray, "Elliptic curve cryptography based authentication scheme for internet of medical things," *Journal of Information Security and Applications*, vol. 58, 2021, Q1, IF: 3.7.  DOI: 10.1016/j.jisa.2021.102761.
- 5 **K Sowjanya**, M. Dasgupta, S. Ray, and M. S. Obaidat, "An efficient elliptic curve cryptography-based without pairing kpabe for internet of things," *IEEE Systems Journal*, vol. 14, 2020, Q1, IF: 4.4.  DOI: 10.1109/JSYST.2019.2944240.

Conference Proceedings

- 1 **K Sowjanya**, S. Jana, V. Kumar, D. Saha, and B. Lall, "Standardization aspects of authentication relay attack using false base station," in *IEEE 17th International Conference on COMMunication Systems & NETWORKS (COMSNETS 2025)*, Bangalore, India, 2025, pp. 1240–1245.
- 2 **K Sowjanya**, D. Saha, and B. Lall, "Zero-trust security in 5g and beyond networks: An overview," in *IEEE 17th International Conference on COMMunication Systems & NETWORKS (COMSNETS 2025)*, Bangalore, India, 2025, pp. 1230–1234.
- 3 **K Sowjanya**, R. Saini, D. Saha, K. Joshi, and M. Das, "Standardization aspects of authentication relay attack using false base station," in *Workshop on Security and Privacy of Next-Generation Networks (FUTUREG, NDSS 2025)*, Network and Distributed System Security (NDSS) Symposium, San Diego, USA, 2025.
- 4 **K Sowjanya** et al., "Supi-rear: Privacy-preserving subscription permanent identification strategy in 5g-aka," in *Stabilization, Safety, and Security of Distributed Systems (SSS 2024)*, Springer: Lecture Notes in Computer Science, vol. 14931, Nagoya, Japan, 2024.
- 5 V. Shwetha, D. Unnati, S. Siddhesh, **K Sowjanya**, and F. A. Antony, "Preventing cross network slice disruptions in a zero-trust and multi-tenant future 5g networks," in *IEEE 9th International Conference on Network Softwarization (NETSOFT 2022)*, Madrid, Spain, 2023, pp. 227–231.
- 6 **K Sowjanya**, A. Porwal, S. Pandey, and P. K. Mishra, "Tlbo-based resource allocation scheme in 5g h-cran," in *IEEE 14th International Conference on COMMunication Systems & NETWORKS (COMSNETS 2022)*, Bangalore, India, 2022.  DOI: 10.1109/COMSNETS53615.2022.9668491.
- 7 **K Sowjanya** and M. Dasgupta, "Survey of symmetric and asymmetric key management schemes in the context of iot based healthcare system," in *IEEE International Conference on Power, Control and Computing Technologies (ICPC2T 2015)*, NIT Raipur, India, 2020, pp. 283–288.
- 8 **K Sowjanya** and M. Dasgupta, "Big data based enhanced ambient assisted living system framework," in *IEEE 10th International Conference on Computing, Communication and Networking Technologies (ICCCNT 2019)*, IIT Kanpur, India, 2019.  DOI: 10.1109/ICCCNT45670.2019.8944522.

- 9 **K Sowjanya** and M. Dasgupta, "Provably secure lightweight key policy attribute-based encryption for internet of things," in *Proceedings of First International Conference on Machine Learning, Network Security, Image Processing and Data Science (MIND 2019)*, **Best Paper Award**, NIT Kurukshetra, India, 2019, pp. 146–160.
- 10 **K Sowjanya** and M. Dasgupta, "Secure ambient assisted living system using elliptic curve cryptography based cpabe," in *Proceedings of IEEE International Advance Computing Conference (ICCCNT 2019)*, IIT Kanpur, India, 2019.  DOI: 10.1109/ICCCNT45670.2019.8944521.
- 11 **K Sowjanya** and M. Dasgupta, "Secure framework for ambient assisted living system," in *Proceedings of Computational Intelligence, Communications, and Business Analytics (CICBA 2019)*, Springer, *Communications in Computer and Information Science*, vol. 1031, Kalyani University, Kalyani, India, 2019.
- 12 **K Sowjanya**, A. Singhal, and C. Choudhary, "Mobdbtest: A machine learning based system for predicting diabetes risk using mobile devices," in *Proceedings of IEEE International Advance Computing Conference (IACC 2015)*, Bangalore, India, 2015, pp. 397–402.

Books

- 1 **K Sowjanya** and M. Dasgupta, Eds., *Risk of Readmission for Diabetes Patients: A Machine Learning Approach: Readmission rate Predictor*. Glasstree Publication, 2019, ISBN: 978-1-5342-9961-0.

Patents

- 1 **K Sowjanya**, R. Saini, D. Saha, K. Joshi, and M. Das, "Methods and systems for securing oran frameworks against compromised rapps," Indian Patent 587457, Apr. 2026.
- 2 **K Sowjanya**, D. Saha, A. M. Baswade, and B. Lall, "Methods and systems for managing supi privacy in a PLMN hosting NPN scenario," Indian Patent 559550, Feb. 2025.
- 3 **K Sowjanya**, D. Saha, and B. Lall, "Methods and systems for protecting user-sensitive information in localized mobile metaverse services," Indian Patent 565916, May 2025.
- 4 V. Kumar, **K Sowjanya**, D. Saha, and B. Lall, "A system and method for detecting false base station in network attack," Indian Patent 202 421 097 948, 2024.