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**Dr. S. Raja Ratna** is working as Associate Professor in the Department of CSE at SRMIST, Ramapuram campus. She completed her Ph.D degree in the department of Information and Communication Engineering from Anna University, Chennai in 2015. She has around 15 years of teaching and research experience and published many articles in referred national and international journals, Conference and Symposium.

**Area of Research:**

Cyber Security, Wireless Network, Network Security

**RESEARCH INFORMATION:**

**Scopus ID:** 56600700300

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**Publons ID:** J-6488-2014

**Ph.D Supervisor and Ph.D Degree Awarded Candidates**

- Anna University Recognized Ph.D Supervisor (Ref. No: 2740095) in the Department of Information and Communication Engineering.
- 2 Ph.D Scholars Completed under Anna University, Chennai.

S.No	Name of the Research Scholar	Degree / Mode	Area of Research	Registration Year	Name of the University	Status
1.	R.B.Benisha	Ph.D (Full Time)	Network Security	Jan 2018	Anna University, Chennai	Ph.D Completed (21-02-2021)
2.	S. Shinly Swarna Sugi	Ph.D (Part Time)	Network Security	July 2016	Anna University, Chennai	Ph.D Completed (05-10-2021)

### Selected Publications:

1. Benisha, RB & Raja Ratna, S 2021, "A Two-step trace model for the detection of UVI attacks against power grids in the wireless network", *Soft computing (Springer)*, vol.25, Jan 2021, pp. 5199-5207, DOI: 10.1007/s00500-020-05520-4. ISSN. 1432-7643, (SCI, Impact Factor : 3.524).
2. Benisha, RB & Raja Ratna, S 2020, 'Detection of Data Integrity attacks by constructing an Effective Intrusion detection system', *Journal of Ambient Intelligence and Humanized Computing (Springer)*, Vol.11, issue.39, pp: 5233-5244, Mar 4, DOI: 10.1007/s12652020-01850, ISSN. 1868-5137, (SCI, Impact Factor : 3.718).
3. Benisha, RB & Raja Ratna, S 2020, 'An intruder defense model for the detection of power grid disturbances in wireless network', *Sadhana - Academy Proceedings in Engineering Sciences (Indian ACAD Sciences)*, vol.45, no.1, pp: , Jun 11, DOI: 10.1007/s12046020-01404-3. ISSN. 0256-2499, (SCI, Impact Factor : 1.188).
4. Shinly Swarna Sugi, S & Raja Ratna, S, 2020, 'A novel distributed training on fog nodes in IoT backbone networks for security', *Soft Computing (Springer)*, vol. 24, issue: 24, pp. 18399-18410. Doi: 10.1007/s00500-020-05047-8. ISSN: 1432-7643 (SCI, Impact Factor : 3.524).
5. Benisha, RB & Raja Ratna, S 2020, 'Detection of interruption attack in the wireless networked closed loop industrial control systems', *Telecommunication Systems (Springer)*, Sep 2020, vol. 73, no.3, pp. 359-370, DOI:10.1007/s11235019-00614-3, ISSN. 1018-4864, (SCI, Impact Factor- 2.336).
6. Benisha, RB & Raja Ratna, S 2019, 'Design of Intrusion Detection and Prevention in SCADA System for the Detection of Bias Injection Attacks', *Security and communication networks (Wiley)*, vol. 22, issue. 4, 2019, Article ID 1082485, pp.1- 12, DOI: 10.1155/2019/1082485, Wiley Publisher, ISSN. 1939- 0114, (SCI, Impact Factor- 2.531).
7. Raja Ratna, S & Ravi, R, 2016, 'Scrutiny of unruly and abuse in wireless networks to mitigate physical layer threats using discriminate-based misbehaviour prevention', *Cluster Computing, Springer*, Vol. 19, No. 1, ISSN. 1386-7857, pp. 87-97, DOI 10.1007/s10586-015-0529-6, March 2016 (SCI, Impact Factor-2.252).
8. Raja Ratna, S, Ravi, R & Beulah Shekhar 2015, 'An intelligent approach based on neuro-fuzzy detachment scheme for preventing jamming attack in wireless networks', *Journal of Intelligent and Fuzzy Logic, ACM Digital Library*, Vol. 28, No. 2, pp. 801-820, Jan 2015, DOI:10.3233/IFS-141363, ISSN. 1064-1246, (SCI, Impact Factor – 1.737).
9. Raja Ratna, S & Ravi, R, 2015, 'Securing jammed network using reliability behaviour value through neuro-fuzzy analysis', *Sadhana Academy Proceedings in Engineering*

Science, Springer publishing, Vol. 40, No. 4, pp. 1139-1153, June 2015, Doi. 10.1007/s12046-015-0377-3, ISSN. 09737677-02562499 (SCI, Impact Factor : 1.188)

10. J. Jospin Jeya; S. Raja Ratna; G. Ganga Devi; M. Priya; C. Sivasankar, 2023, 'An Efficient algorithm for secure key management in cloud environment', IEEE Xplore Digital Library, ISSN:2324-2160, DOI: 10.1109/ICONSTEM56934.2023.10142544. (Scopus-Indexed).
11. Benita B & Raja Ratna, S, 2022, 'Survey on Trending attacks and the prevention techniques in Edge Computing based networks', IEEE Xplore Digital Library, ISSN:2288-5805, DOI: 10.1109/ICNGIS54955.2022.10079841. (Scopus-Indexed).
12. Shinly Swarna Sugi S & Raja Ratna S, 2021, 'Optimal Feature Selection in Intrusion Detection using SVM-CA', International Journal of Networking and Virtual Organisations (IJNVO), vol.25, issue. 2, pp. 103-113, Inderscience, Doi: 2-s2.0-85120033147, ISSN Print : 1470-9503 (Scopus-Indexed) .
13. Benisha, RB & Raja Ratna, S 2020, 'Detection of Intrusion using Enhanced Machine Learning Model in SCADA Wireless Network', International Journal of Future Generation Communication and Networking, vol. 13, no. 1, pp. 85-98, ISSN:2233-7857, publisher: Science and Engineering Research Support Society(SERSC), DOI:10.1155/2019/1082485. (Scopus-Indexed)
14. Benisha, RB& Raja Ratna, S 2020, 'A Novel Classification technique based Intrusion Detection System for SCADA Network', International journal of Scientific and technology research, vol.9, no.3, Hindawi, pp.3933-3938, Doi. 2-s2.0-85082607705, ISSN. 2277 -8616. (Scopus-Indexed)
15. Benisha, RB, Raja Ratna, S & Arokia Jesu Prabhu L 2020, 'Outlier Application Level based Intrusion detection and Prevention in Wireless Network', IEEE Xplore Digital Library, DOI: 10.1109/48352.2020.9104182, pp.1-10, ISSN: 2329 -7190 (Scopus-Indexed)
16. Shinly Swarna Sugi S & Raja Ratna S, 2020, 'Investigation of Machine Learning Techniques in Intrusion Detection System for IoT Network,' IEEE Xplore Digital Library, pp. 1164-1167, doi: 10.1109/ICISS49785.2020.9315900, ISBN. 978-1-7281-7090-9. (Scopus Indexed)
17. Raja Ratna, S 'Timer based Crypto-Scheduling: An Effective Scheme for Preventing Physical Layer Attack in Wireless Network', Journal of Advanced Research in Dynamical and Control Systems., Elsevier, Vol.10, special Issue no. 08, May 2018, pp. 781-787, IF 0.22, 2018, Publisher: Institute of Advanced Scientific Research. (Scopus-Indexed)
18. R.B. Benisha, S. Raja Ratna, "Prevention of Cyber Attacks in Control Systems: A Review", IEEE Xplore Digital Library, 03 December 2018, pp. 419-422, Doi. 10.1109/ICOEL.2018.8553801, ISBN: 2-s2.0-85059974866). (Scopus-Indexed)

19. J. Mary Jenifer; S. Raja Ratna, "A Survey on Different Video Steganography Techniques", IEEE Xplore Digital Library, 03 December 2018, pp. 627-632, Doi. 10.1109/ICOEL.2018.8553847, ISBN:978-1-5386-3571-1. (Scopus-Indexed)
20. Raja Ratna, S & Ravi, R 2015, 'Code Based Rescheduling: A Highly Reliable Inter Layer Scheme to Prevent Physical Layer Threat in Wireless Network', Global Journal of Pure and Applied Mathematics, Publisher: Research India Publication, vol.11, no.1, pp.75-90, ISSN: 0973-1768. (Scopus-Indexed)
21. Raja Ratna, S & Ravi, R, 2015, 'Trust Based Suspicious route categorization for wireless networks and its applications to physical layer attack', WSEAS Transaction on Computers. vol.14, pp. 502-512, Publisher :WSEAS Press, IF – 0.135, ISSN: 1109-2750. (Scopus-Indexed)
22. Raja Ratna, S & Ravi, R, Feb 2015 'Survey on Jamming Wireless Networks: Attacks and its Prevention strategies', World Academy of Science, Engineering and Technology. Vol.09, no. 2, pp. 642-648, IF 0.126, 2015, ISSN. 1307-6892, Doi. 1307-6892/10003033. (Scopus-Indexed)
23. Raja Ratna, S & Ravi, R 2014, 'Malicious Route Defending Reliable-Data Transmission Scheme for Multi Path Routing in Wireless Network', World Academy of Science, Engineering and Technology, vol.8, no.12, pp. 1950-1955, IF 0.126, ISSN. 1307-6892, Doi. 1307-6892/1000245. (Scopus-Indexed).

## **Book Chapters**

1. Shinly Swarna Sugi S & Raja Ratna S, 2020, ' Survey on the Security Threats in IoT System', EAI/Springer Innovations in Communication and Computing book series, pp.721-728, ISBN: 978-3-030-49794-1. [https://doi.org/10.1007/978-3-030-49795-8\\_68](https://doi.org/10.1007/978-3-030-49795-8_68). (Scopus-Indexed).
2. R.B. Benisha, S. Raja Ratna, "Hierarchical View on Detection of Attack in closed loop control system", Springer Lecture Notes on Data Engineering and Communications Technologies, vol. 26,pp.220–226, December 2018, Doi. 10.1007/978-3-030-03146-6\_23, ISSN: 23674520-23674512. (Scopus-Indexed)
3. S. Raja Ratna, Shajilin Loret, J.B, "A review on various approaches in video steganography", Intelligent Communication Technologies and Virtual Mobile Networks, Springer Lecture Notes on Data Engineering and Communications Technologies, Aug 2019, pp: 626-632, Vol: 33, DOI : [https://doi.org/10.1007/978-3-030-28364-3\\_64](https://doi.org/10.1007/978-3-030-28364-3_64), ISSN.23674520-23674512. (Scopus-Indexed)
4. J.Jospin Jeya, S. Raja Ratna, G.Gangadevi, "Generative AI Boosts Business Productivity", Decision Strategies and Artificial Intelligence navigating the business landscape, SAN International Scientific Publications, July 2023, pp: 34-54, Doi : <https://doi.org/10.59646/edbook/009>, ISBN: 978-81-963849-1-3.

## **Research Patent**

1. **Dr. S. Raja Ratna**, Dr.J.Jospin Jeya, S.Lakshmi, S.Abirami, K.Subha, Type of invention: "ASecure interface for IOT devices enabled smart homes using block chain Comprehensive analysis of blockchain cyberattack, problems and Considerations", Application no: 202341008670, 2023.