

Faculty Profile

Faculty Photo

Dr. Sowmyarani C N has received the Ph.D. degree in Data Privacy. She is currently working as Professor with the Department of Computer Science and Engineering, R. V. College of Engineering. She has 16 years of teaching experience. She has published more than 60 research publications. She has delivered many talks and training sessions in the field of data privacy, networks, and security. She has been working on consultancy and funded research projects funded by VGST, Government of Karnataka, and India. Her research interests include data engineering, data privacy, computer networks, cyber security, and education technology.

Personal Information

- **Name:** Dr. Sowmyarani C N
- **Designation:** Professor
- **Department:** Department of Computer Science and Engineering
- **Email:** sowmyaranicn@rvce.edu.in
- **Phone:**

Google Scholar: <https://www.rvce.edu.in/cs-soumyarani>

ORCID: <https://orcid.org/0000-0001-9549-1663>

Research Focus

- **Primary Area:** Privacy Preserving Data Publishing, Education Technology, Computer Security, Computer Networks, Artificial Intelligence and Machine Learning.
- **Allied Areas:**
 - Data Privacy and Security
 - Education Technology

Academic Qualifications

- **Ph.D.:** Computer Science and Engineering, VTU, 2016.
- **M.E.:** Computer Science and Engg., VTU, 2009
- **B.E.:** Information Science and Engg., VTU, 2006
- **Postdoctoral Research:** NA

Professional Experience

Experience

S.No.	Institute/College/Industry	Job Title	Duration (From- To)
1.	RV College of Engineering	Professor	2024-Till date
2.	RV College of Engineering	Associate Professor	2016-2024
3	MS Ramaiah Institute of Technology, Bangalore.	Assistant Professor	2011-2016
4	Sri Siddhartha Institute of Technology, Tumkur.	Lecturer	2009-2011
5	Intel India Technologies Pvt. Ltd.	Data Analyst	2008-2009
6	Siddaganga Institute of Technology, Tumkur.	Lecturer	2006-2007

Publications & Patents

Journal Publications

1. C. N. Sowmyarani, L. G. Namya, G. K. Nidhi and P. Ramakanth Kumar, "Score, Arrange, and Cluster: A Novel Clustering-Based Technique for Privacy-Preserving Data Publishing," in IEEE Access, vol. 12, pp. 79861-79874, 2024, doi: 10.1109/ACCESS.2024.3403372. (Q1) .
2. Gadad, V., Sowmyarani, C.N. & Dayananda P. Semantic Tree Based PPDP Technique for Multiple Sensitive Attributes in Inter Cloud. SN COMPUT. SCI. 5, 722 (2024). <https://doi.org/10.1007/s42979-024-03079-7>. 2024 (Q1).
3. Sowmyarani, C.N., Gadad, V., Dayananda, P. (p+, α , t)-anonymity technique against privacy attacks International Journal of Information Security and Privacy Volume 15, issue 2, 2021 (Q3 Free publication).
4. Rakshitha K. Manru, Sowmyarani C.N. Hierarchical Blockchain-based Security Solutions for IoT Infrastructure: A Technical Review. International Journal of Computer Applications. 186, 47 (Nov 2024), 1-5. DOI=10.5120/ijca2024924113.
5. Veena Gadad, C. N. Sowmyarani, "Towards Privacy Preserving Data Publishing in Inter Cloud Infrastructure," International Journal of Engineering Trends and Technology, vol. 70, no. 10, pp. 27-34, 2022 (Q4).
6. Dayananda Pruthviraja, Sowmyarani C. Nagaraju , Niranjanamurthy Mudligiriyappa, Mahesh S. Raisinghani, Surbhi Bhatia Khan, Nora A. Alkhaldi and Areej A. Malibari

- "Detection of Alzheimer's Disease Based on Cloud-Based Deep Learning Paradigm", *Diagnostics* 2023, 13(16), 2687; <https://doi.org/10.3390/diagnostics13162687> (Q2).
7. Veena Gadad and Sowmyarani C N, "Incremental Diversity: An Efficient Anonymization Technique for PPDP of Multiple Sensitive Attributes," *International Journal of Advanced Computer Science and Applications (IJACSA)*, vol. 14, no. 3, pp.883–891, 2023 (Q3).
 8. Apsara, M.B., Dayananda, P., Sowmyarani, C.N. A Review on Secure Group Key Management Schemes for Data Gathering in Wireless Sensor Networks, *Engineering Technology and Applied Science Research* Volume 10, issue 1 2020 (Q3).
 9. Pruthviraja, Dayananda, Anil B. C, Sowmyarani C. N. "Efficient Local Cloud-Based Solution for Diabetic Retinopathy Detection" *International Journal of Web-Based Learning and Teaching Technologies (IJWLTT)*, volume.16, no.3. 2021, Pages: 39–46. <http://doi.org/10.4018/IJWLTT.20210501.0a3>. (Q3).
 10. C. N. Sowmyarani, G. N. Srinivasan, "A Novel Privacy Preserving Model to Enhance Data Privacy" *International Journal of Applied Engineering Research*. ISSN 0973–4562 Volume 10, Number 9 (2015) pp. 21605–21613.
 11. Sowmyarani C N and Dr. G N Srinivasan. Article: Survey on Recent Developments in Privacy Preserving Models. *International Journal of Computer Applications* 38(9):18–22, January 2012. Foundation of Computer Science, New York, USA.
 12. Dayananda P., Sowmyarani C. N., "Comprehensive Study on Keyword Search on Semi Structured Data", *International Journal of Knowledge Society Research* Volume 7 , Issue 3, 62–85, July–September 2016. DOI:10.4018/IJKSR.2016070105.
 13. Akshay Godkhindi, Dayananda P., Sowmyarani C. N., "A Literature Survey on Computer-Aided Diagnosis in Detection and Classification of Polyp in Colon Cancer using CT Colonography" *International Journal of Advanced Research in Computer and Communication Engineering*. Vol. 5, Special Issue 2, 94–102, October 2016.
 14. Dr. Sowmyarani C. N., Dr. Dayananda P., "K-Anonymity Versus L-Diversity: A comparative Analysis on Data anonymization Techniques" *"International Journal of Engineering & Technology"* Volume 7 (3.4) (2018) 24–27.
 15. Veena Gadad, Dr. Sowmyarani C N, "Open Source tools for Statistical Disclosure Control", *Journal of Information Technology and Science*, Volume–6, Issue–1 (JanuaryApril, 2020) page no– 1 to 6, Mat Journals.
 16. Dr. Sowmyarani C N Manohar K "Secure Publisher Content Sharing Model for Cyber Physical System with Blockchain Based Cloud Storage", *International Journal Of Research*

And Analytical Reviews, Volume 6, Issue 2, Pages 398–401, 5/2019.

17. Shruthi N, Sowmyarani C N, “A Study on Authentication Mechanisms in Bitcoin”, Journal of network security computer networks, Volume 5, Issue 2, Pages 9–14, Publisher MAT journal, 2019.
18. Manohar K, Dr. Sowmyarani C N “A Comparative Study on Information and Network Security Embedded in Blockchain and its Applications”, Journal of network security computer networks, Volume 5, Issue 2, Pages 10–16, Publisher MAT journal, 2019.
19. Shruthi N, Dr. Sowmyarani C N “Secure Data Sharing using Blockchain based Cloud Storage for Healthcare System”, International Journal of Research and Analytical Reviews, Volume 6, Issue 2, Pages 271–275, IJRAR, 5/2019.
20. Poojitha G, Sowmyarani C. N. “Pipeline for Real-time Anomaly Detection in Log Data Streams using Apache Kafka and Apache Spark”, International Journal of Computer Applications, 2018, Volume 182, Issue 4, Pages 8–13, Publisher: Foundation of Computer Science (FCS), NY, USA.
21. M. B. Apsara, P. Dayananda, and C. N. Sowmyarani, “A Review on Secure Group Key Management Schemes for Data Gathering in Wireless Sensor Networks”, Engineering Technololy and Applied Science Rresearch. Vol. 10, no. 1, pp. 5108–5112, Feb. 2020. <https://doi.org/10.48084/etasr.3213>.
22. Veena Gadad, Dr. Sowmyarani C N, "Open Source tools for Statistical Disclosure Control", Journal of Information Technology and Sciences, Volume-6, Issue-1, pp. 1–6, January–April, 2020.
23. Akash Kuamr Ghanate, Aashish M, Santhosh M Patil, Sowmyarani C N, Ramakanth Kumar P, “Review on 3D Mapping and Segmentation”, International Journal of Engineering and Advanced Technology (IJEAT)ISSN: 2249 –8958,Volume-9Issue-6, August2020.
24. Shrutheesh Raman Iyer, Dr. Sowmyarani CN, Dr. Ramakanthkumar P, A survey on monocular visual Odometry for Autonomous vehicle navigation, International Journal of Advanced Science and Technology Vol. 29, No. 9s, (2020), pp. 570–584 ISSN: 2005-4238 IJAST.
25. Aishrith P Rao, Raghavendra JC, Dr. Sowmyarani CN, Dr.Padmashree T “A Scalable Big Data Processing Architecture for Enterprises” Journal of Emerging Technologies and Innovative Research, Volume 8, Issue 6, Pages: 25–30, June–2021. <https://www.jetir.org/view?paper=JETIR2106666>.
26. Samrudhi Narayan Santaji, Sowmyarani C N “Backend Development using Spring JPA

with PostgreSQL in Kotlin” Journal of Emerging Technologies and Innovative Research, Volume 8, Issue 6, Pages: 25–30, June–2021.

27. Dayananda P , Mrityunjaya V. Latte, Mahesh S. Raisinghani Texas Woman’s University, Denton, Texas, USA, Sowmyarani CN “New approach for target setting mechanism of course outcomes in higher education accreditation”, Journal of Economic and Administrative Sciences, Vol. ahead-of-print No. ahead-of-print. © Emerald Publishing Limited, 1026–4116, DOI 10.1108/JEAS-03-2020-0024. (WoS)
28. Rujula Singh R, Nikhil S Nayak, Dr.Sownmyarani CN, Suma B Rao “A Study on Messaging Systems– Kafka, KubeMQ, IBMMQ and RabbitMQ” International Journal of Computer Engineering and Technology, Volume 12, Issue 2, May – August 2021.
29. Akash Hegde, Krithika L, Dr. Sowmyarani C. N, Dr. Dayananda P “A Study On Denial Of Service (Dos) And Distributed Denial Of Service (Ddos) Attacks” International Journal of Future Generation Communication and Networking Vol. 13, No. 1, (2020), pp. 959–969.
30. S Kiruthika, Sowmyarani C N, “Credit Card Fraud Detection using Machine Learning and Deployment of Model in Public Cloud as a Web Service”, International Journal of Recent Technology and Engineering (IJRTE), ISSN: 2277–3878, Volume–9, Issue–2, July 2020.
31. Mahek Jain, Bhavya Bhagerathi, Sowmyarani C N “Real Time Driver Drowsiness Detection using Computer Vision” Volume–11, Issue–1, 109–113, October 2021. DOI: 10.35940/ijeat.A3159.101121.
32. Veena Gadad, C. N. Sowmyarani, "Towards Privacy Preserving Data Publishing in Inter cloud Infrastructure," International Journal of Engineering Trends and Technology, vol. 70, no. 10, pp. 27–34, 2022. Crossref, <https://doi.org/10.14445/22315381/IJETT-V70I10P204>.
33. Spoorthi Jayaprakash Malgund, Dr Sowmyarani C N “AUTOMATING DEPLOYMENTS OF THE LATEST APPLICATION VERSION USING CI-CD WORKFLOW” International Journal of Engineering Applied Sciences and Technology, 2022, Vol. 7, Issue 5, ISSN No. 2455–2143, Pages 99–103.

Conference Papers

34. Vaibhavi D; T Harshitha; Meghana D Hegde; Samruddhi D; Veena Gadad; Sowmyarani C N "Portable soil analyzer to promote Digital Agriculture," 2025 International Conference on Intelligent and Innovative Technologies in Computing, Electrical and Electronics (IITCEE), Bangalore, India, 2025, pp. 1–7, doi: 10.1109/IITCEE64140.2025.10915264.
35. V. Gadad, S. C. N, S. Rajendhran and R. K. P, "Privacy Preserving Wearable Data

Publishing Using Inter Cloud Infrastructure," 2024 8th International Conference on Computational System and Information Technology for Sustainable Solutions (CSITSS), Bengaluru, India, 2024, pp. 1-6, doi: 10.1109/CSITSS64042.2024.10817008.

36. S. Ramasubramanian, S. C.N, A. J. Athreya, A. Devarajan, A. U. Shankar and R. Kumar P, "Data Dimensionality Reduction Using Principal Component Analysis: A Case Study," 2024 1st International Conference on Communications and Computer Science (InCCCS), Bangalore, India, 2024, pp. 1-6, doi: 10.1109/InCCCS60947.2024.10593421.
37. C. N. Sowmyarani, G. N., Srinivasan, K., Sukanya. A New Privacy Preserving Measure: p-Sensitive, t-Closeness. Proceedings of International Conference on Advances in Computing, Advances in Intelligent Systems and Computing, Published by Springer India. Volume 174, 2013, pp 57-62.
38. Sowmyarani C N; Srinivasan, G N, "A robust privacy preserving model for data publishing," in Computer Communication and Informatics (ICCCI), 2015 International Conference on , vol., no., pp.1-6, 8-10 Jan.2015 doi: 10.1109/ICCCI.2015.7218095.
39. Rajeshwari N O and Sowmyarani C N, "Data utility measures-a survey," 2016 2nd International Conference on Applied and Theoretical Computing and Communication Technology (iCATccT), Bangalore, India, 2016, pp. 722-725. doi: 10.1109/ICATCCT.2016.7912094.
40. Narasimha Swamy S, Dr. Sowmyarani C N., " Repeated Data Management Framework for IoT: A Case Study on Weather Monitoring and Forecasting" 4th IEEE International Conference on Recent Advances in Information Technology held during March 15-17, 2018 Organized by Department of Computer Science & Engineering, Indian Institute of Technology(ISM), Dhanbad.
41. Veena Gadad., Dr. Sowmyarani C N., "Understanding Microaggregation- A technique of Statistical Disclosure Control for Privacy Preserving and Data Publishing in Inter-Cloud," 2018 Second International Conference on Advances in Electronics, Computers and Communications (ICAECC), 2018, pp. 1-4, doi: 10.1109/ICAECC.2018.8479452.
42. Veena Gadad., Dr. Sowmyarani C N., " A Novel Utility metric to measure Information loss for generalization and suppression techniques in Privacy preserving data publishing", 4th IEEE International Conference on Computational Systems and Information Technology for Sustainable Solutions , 20th and 21st Dec 2019, RVCE, Bengaluru.
43. Veena Gadad, Dr. Sowmyarani C N, Dr. Ramakanth Kumar P, Dr. Dayananda P, "Role of privacy attacks and utility metrics in crowdsourcing for urban data analysis.", at

International Conference on Urban Data Science, January 20–21, 2020 IIT Chennai, India
Free Open- Access Proceedings for Scientific Conferences and Workshops Vol 2557,
pages 17–31, urn:nbn:de:0074-2557-1. <http://ceur-ws.org/Vol-2557/paper-02.pdf>.

44. Shreyas A R, Soumya sharma, Shivani H, Dr. Sowmyarani C N, “IoT Enabled Medicine Bottle”, “Fifth International Conference on Emerging research in computing, Information, Communication and Applications (ERCICA), Springer (accepted and Presented) , NMIT, Bengaaluru, JULY 2018.
45. Sujay Lokesh, Siddharth Mitta, Srivardhan Reddy kalli, Shlok Sethia, Sowmyarani C N, “Object Classification based on spatial orientation using ultrasonic sensors” 2018 Fourth International Conference on Computinmg Communication Control And Automation (ICCUBEA) (Accepted and presented), 16th–18th AUG 2018.
46. Prof. Kavyashree, Dr. Sowmyarani C N, Dr. Dayananda P, “TCP OFF PATH EXPLOITS IN WEB”, accepted for publication in Journal of Computational and Theoretical Nanoscience ISSN: 1546–1955 (Print): EISSN: 1546–1963.
47. H S Srihari, Aishwarya Seth, Dr. Sowmyarani C N, “Evaluation of Internal Factors in Driver Distraction “ : 4th IEEE International Conference on Computational Systems and Information Technology for Sustainable Solutions, 20th and 21st Dec 2019, RVCE, Bengaluru.
48. V. Gadad, C. N. Sowmyarani and P. Ramakanth Kumar, "An Effective Algorithm for Multiple Sensitive Attributes to Preserve Data Privacy," 2021 7th International Conference on Advanced Computing and Communication Systems (ICACCS), 2021, pp. 378–383, doi: 10.1109/ICACCS51430.2021.9442019.
49. Veena Gadad, Dr. Sowmyarani C N, “Open Source Tools for statistical disclosure control”, 5th National Conference on Advancements in Information Technology –2019 JSSATE, 10th and 11th April, Bengaluru.
50. K. Kavyashree and C. N. Sowmyarani, "TCP Attack Detection Using Dynamic Threshold," 2021 IEEE International Conference on Computation System and Information Technology for Sustainable Solutions (CSITSS), 2021, pp. 1–7, doi: 10.1109/CSITSS54238.2021.9683302.
51. C. N. Sowmyarani, L. G. Namya, G. K. Nidhi and P. Ramakanth Kumar, "Enhanced k-Anonymity model based on clustering to overcome Temporal attack in Privacy Preserving Data Publishing," 2022 IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT), 2022, pp. 1–6, doi:

10.1109/CONECCT55679.2022.9865682.

52. C. N. Sowmyarani, L. G. Namya, G. K. Nidhi and P. Ramakanth Kumar, "Analysis and Optimization of Clustering-based Privacy Preservation using Machine Learning," 2023 International Conference for Advancement in Technology (ICONAT), Goa, India, 2023, pp. 1-4, doi: 10.1109/ICONAT57137.2023.10080207.

Books/Book Chapters

53. Veena Gadad, Sowmyarani C. N. "A Comprehensive Review of Privacy Preserving Data Publishing (PPDP) Algorithms for Multiple Sensitive Attributes (MSA)", Information Security and Privacy in Smart Devices: Tools, Methods, and Applications, Copyright: © 2023 |Pages: 52, DOI: 10.4018/978-1-6684-5991-1.ch006.
54. Veena Gadad, Sowmyarani C N, "A Case Study- Data Analysis and visualization on census data using R tool", Managerial Perspectives on Intelligent Big Data Analytics , Copyright: © 2019 , Pages: 25, DOI: 10.4018/978-1-5225-7277-0.ch008Publisher IGI Global.
55. Dr. Dayananda P, Dr. Sowmyarani C N., "Review on Keyword Search and Ranking Techniques for Semi-Structured Data", "Knowledge-Intensive Economies and Opportunities for Social, Organizational, and Technological Growth", Copyright: © 2019 Pages: 23, DOI: 10.4018/978-1-5225-7347-0.ch013.
56. Sowmyarani C. N., Dayananda P., "Analytical Study on Privacy Attack Models in Privacy Preserving Data Publishing", Source Title: Cyber Law, Privacy, and Security: Concepts, Methodologies, Tools, and Applications, Copyright: © 2019 Pages: 21, DOI: 10.4018/978-1- 5225-8897-9.ch076.
57. Sowmyarani C. N., Dayananda P., "Analytical Study on Privacy Attack Models in Privacy Preserving Data Publishing", Source Title: Censorship, Surveillance, and Privacy: Concepts, Methodologies, Tools, and Applications, Copyright: © 2019, Pages: 21, DOI: 10.4018/978- 1-5225-7113-1.ch061.
58. Sowmyarani C. N, Dayananda P, "Analytical Study on Privacy Attack Models in Privacy Preserving Data Publishing", "Security Solutions and Applied Cryptography in Smart Grid Communications" Copyright:© 2017 Pages: 98-116. DOI: 10.4018/978-1-5225-1829-7.ch006.

Patents [Filed / Published / Granted]

1. “(k, p+, d) anonymity for privacy preserving data publishing” has been filed for patent with complete specification – CBR No. 10740, Reference number E-2/1574/2015-CHE, Application number 2696/CHE/2015.

R & Grants & Consultancy Projects

1. Received grant of **15 LAKHS** from Vision Group of Science and Technology (**VGST**), Govt of Karnataka, under K-FIST-L1 scheme for the Research Proposal titled “**Data Anonymization Techniques for Mitigation of Privacy Attacks in Privacy Preserving Data Publishing**” in year 2020-21.

Ongoing & Completed Research Projects

- **Data Anonymization Techniques for Mitigation of Privacy Attacks in Privacy Preserving Data Publishing** – Funding Agency: VGST, Govt. of Karnataka, Duration: 2 years. Role: PI.

Ongoing & Completed Consultancy Projects

- **Hospital Data Management** – Funding Agency: Arivu Healthcare Ltd., Duration: 6 Months, Role: PI.

Professional Memberships

- IEEE
- ACM
- ISTE

Awards & Recognitions

- **Best Paper award** for title “*Object Classification based on spatial orientation using ultrasonic sensors*” 2018 Fourth IEEE International Conference on Computing Communication Control And Automation (ICCUBEA) (Accepted and registered), 16th-18th AUG 2018.

Student Supervision

- **Ph.D. Candidates:** [03] ([01] Graduated)
- **M.Tech/M.Sc. Students:** 15
- **Undergraduate Research Mentees:** 30

Professional Roles

- **Editorial Board:** IGI Global, USA.
- Reviewer for Elsevier, IEEEACCESS, Springer Nature,

- **Chair/Committee Member:** SIT-BoE Member, BMSIT-BoE Member, Doctoral Advisory Committee Member, MIT, MAHE.
- **Industry Advisor:** NA

Teaching

Core Courses: [CY245AT] Computer Networks. [MCN313IA] Cryptography and Network Security.

Advanced/Lab Courses:

- Database Management Systems, Cryptography and Network Security, Design Thinking.

Professional Roles

Responsibilities

- **Academic:** Internship coordinator, Minor Project coordinator.
- **Administrative:** PG coordinator for CO-PO Attainment.

External Connect

- BoE Member - BMSIT, Bengaluru.