Dr. S. Sudhakar B.E., M.E., Ph.D.,

Associate Professor, Department of Data Science

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Professional Experience: 15 years

Dr. S. Sudhakar, currently working as an Associate Professor in the Department of Data Science at T. John Institute of Technology, Bengaluru. I earned my Ph.D. in Information and Communication Engineering from Anna University in 2023, my Master of Engineering in 2011 and Bachelor of Engineering in 2009, which gave me a strong interdisciplinary foundation. To strengthen my expertise, I also completed the AICTE QIP PG Certificate Programme in Artificial Intelligence and Data Science at IIIT Kottayam and advanced programs in Quantum Computing at CDAC Hyderabad and IIT Roorkee.

I strongly believe in continuous learning. Over the years, I have attended more than 25 FDPs, workshops, and seminars, and I also contribute to the academic community as a reviewer for scholarly journals. My teaching philosophy focuses on building conceptual clarity and practical skills, and I enjoy mentoring students to innovate, participate in research, and prepare for employability and higher studies. My vision is to develop AI–IoT–Quantum integrated solutions and to contribute to research, institutional growth, and collaborative advancements.

Area of Expertise:

Data Analytics, Machine Learning, Computer Vision, Embedded Systems, IOT and Quantum Computing.

Journal Articles Publication (Scopus indexed)

1. S. Sudhakar, S. Vignesh Raja, A. Govindarajan, K. Batri, and M. Lakshmanan, “Inhomogeneous nonlinearity meets parity–time-symmetric bragg structures: Route to ultralow power steering and peculiar stable states,” pp. 2246–2253, *Journal of the Optical Society of America B* vol. 39 no. 8, pp. 2246–2253, 2022.
2. S. Sudhakar, S. Vignesh Raja, A. Govindarajan, K. Batri, and M. Lakshmanan, “Low-power optical bistability in pt-symmetric chirped bragg gratings with four-wave mixing,” pp. 643–650, *Journal of the Optical Society of America B* vol. 39 no. 3, pp. 643–650, 2022.
3. S. Sudhakar, A. Akashwar, M. A. Someshwar, T. Dhaneshguru, and M. P. Kumar, “Improving security using modified s-box for aes cryptographic primitives,” pp. 830–835, *Advances in Parallel Computing, IOS Press* vol. 39 Recent Trends in Intensive computing, pp. 830–835, 2021.
4. G. S. Kumar, V. Parthasarathy, E. P. Kumar, S. Thiyagarajan, S. S. S. Babu, and S. Sudhakar, “A comprehensive compression and encryption scheme for secured medical images communication,” p. 16, *Indian Journal of Science and Technology* vol. 9, p. 16, 2016.

5. G. S. Kumar, V. Parthasarathy, E. P. Kumar, S. Thiyagarajan, S. S. S. Babu, and S. Sudhakar, "Design and implementation of compact coax fed multi band mimo antenna for 4g applications," *Indian J. Sci. Technol.* vol. 9 no. 16, 2016.
6. G. SaravanaKumar, S. Sudhakar, S. Sivaranjani, and P.V. Sandhiya, "An automated data flow monitoring scheme for electro static precipitators," *International Journal of Control Theory and Applications* vol. 9 no. 9, 2016.
7. S. Sudhakar, E. P. Kumar, and S. Thiyagarajan, "Border security and multi access robot using embedded system," pp. 1–5, *Indian Journal of Science and Technology* vol. 9 no. 16, pp. 1–5, 2016.
8. G. S. Kumar, V. Parthasarathy, S. S. Babu, and S. Sudhakar, "An energy spectral density computational scheme for brain computer interface," pp. 21 139–21 149, *International Journal of Applied Engineering Research* vol. 10 no. 8, pp. 21 139–21 149, 2015.
9. V. Parthasarathy, G. SaravanaKumar, S. S. Babu, and S. Sudhakar, "A novel image encryption scheme for similar structural images," pp. 173–177, *International Journal of Applied Engineering Research* vol. 10 no. 53, pp. 173–177, 2015.
10. S. Sudhakar, B. M, and P. A, "A cnn-driven deep learning approach for detecting leukemia in microscopic images," p. 4, *Industrial Engineering Journal* vol. 54 no. 5, p. 4, 2025.
11. M. Sheriff, T. R. Dinesh Kumar, S. Sudhakar, D. Naveesh Kumar, K.Manoj, and S.Murugesan, "Unraveling complexities of abnormal activity detection in real-time video streams using convolutional neural networks (cnns)," pp. 2250–2257, *European Chemical Bulletin* vol. 12 no. 1, pp. 2250–2257, 2023.
12. S. Sudhakar, T. R. Kumar, *et al.*, "Automatic dosa making bot using artificial intelligence and real-time image processing," pp. 4573–4582, *Turkish Online Journal of Qualitative Inquiry* vol. 12 no. 5, pp. 4573–4582, 2021.
13. V. Parthasarathy, S. Sivasaravanababu, G. Saravanakumar,V. Prithivirajan, S. Sudhakar, andV. P.Kolanchinathan, "Electro oculogram based personal assistive system for amyotrohic lateral sclerosis patients," pp. 259–266, *International Journal of Pure and Applied Mathematics* vol. 119 no. 15, pp. 259–266, 2018.

Conference Proceedings [Scopus Indexed]

1. S. Sudhakar, S. Sivasaravanababu, T. D. Kumar, A. Darwin, M. Gowtham, and R. Danushkodi, "Detection of diabetic retinopathy through application of deep learning technique," *International Conference on Recent Trends in Computing, (Springer, LNNS Book Series)*, pp. 353–368, 2025.
2. T. D. Kumar, S. Sudhakar, M. Divyajothi, S. Madhumitha, *et al.*, "Stoneuro: Stone detection unveiled through advanced ai models," *2024 7th International Conference on Circuit Power and Computing Technologies (ICCPCT), (IEEE Xplore)*, vol. 1, pp. 975–982, 2024.
3. V. Ravi, G. Bhavani, M. Veeramukeshwaran, S. Sudhakar, M. Parthiban, *et al.*, "Anemia estimation using eye conjunctiva image: A comparative study of deep learning algorithms," *2024 7th International Conference on Circuit Power and Computing Technologies (ICCPCT), (IEEE Xplore)*, vol. 1, pp. 1428–1432, 2024.

4. R. Saranya, S. Sudhakar, T. Priyadharshini, and V. Geethalakshmi, "Computerized number plate detection and generalized character recognition using yolov8 model," *International Conference on Intelligent Computing, Smart Communication and Network Technologies, (Springer, CCIS book series)*, pp. 250–261, 2024.
5. S. Sudhakar, V. Kolanchinathan, S. S. Babu, M. Aakash, B. Arunkumar, and V. Arunkumar, "A frame work for the tuberculosis detection through cxr using deep learning networks," *2024 7th International Conference on Circuit Power and Computing Technologies (ICCPCT), (IEEE Xplore)*, vol. 1, pp. 1511–1515, 2024.
6. S. Sudhakar, T. D. Kumar, S. S. Babu, M. Chandravel, A. J. Paul, and I. K. Selvam, "Enhanced reversible data hiding scheme based on dct coefficients in jpeg compression," *2024 7th International Conference on Circuit Power and Computing Technologies (ICCPCT), (IEEE Xplore)*, vol. 1, pp. 1734–1738, 2024.
7. S. Sudhakar, T. D. Kumar, S. S. Babu, J. Moses, *et al.*, "Development of land cover classification system implementation utilizing an artificial neural network (ann) classifier," *2024 International Conference on Recent Advances in Electrical, Electronics, Ubiquitous Communication, and Computational Intelligence (RAEEUCCI), (IEEE Xplore)*, pp. 1–5, 2024.
8. S. Sudhakar, P. Santhakumar, H. Praveen, and R. Prashanth Kumar, "Channel estimation for secure ofdm system using adaptive cyclic prefix selection," *2023 8th International Conference on Communication and Electronics Systems (ICCES), (IEEE Xplore)*, pp. 103–109, 2023.
9. S. Sudhakar, S. V. Raja, and A. Govindarajan, "Numerical investigation of optical bistability in inhomogeneous pt-symmetric gratings," *2022 International Conference on Numerical Simulation of Optoelectronic Devices (NUSOD), (IEEE Xplore)*, pp. 203–204, 2022.
10. V. Parthasarathy, G. S. Kumar, C. S. Blessing, S. S. Babu, and S. Sudhakar, "Measurements of pattern identification accuracy using brain computer interface technology for neurological disability patients," *2014 Apcbees San Diego Conferences, (Elseiver, APCBEE Procedia)*, 2014.

Funded Projects

- *Real-Time Portable Raspberry Pi-Based System for Anemia Detection*, Tamil Nadu State Council for Science and Technology, Student Project Scheme, 2025

Books & Chapters:

- Contributions in *Data Analytics and Artificial Intelligence* series

Patents:

- Patent (2026) - *AI-Based Cyber Security Data Analytic Device.*
- Patent (2026) - *AI-Based Agro-Environmental Monitoring and Renewable Energy Utilization System*
- Patent (2024) – *An Efficient ResNet Architecture for Segmentation of Spine Medical Images.*