

## Dr. NIRMALA M. B.

Affiliation: Associate Professor, Dept of Computer Science and Engineering, SIT

Contact: +91 97393 02826

Email: mbnirmala@sit.ac.in

Vidwan ID: **90843**

Scopus ID: [57189468856](#)

OrcID: [0000-0003-1739-124X](#)

Faculty ID:

### Education

	Degree	Year	Institute	Specialization
1	Ph. D	2017	VTU, Belgaum	Computer Science & Engg.- Cryptography and Network Security
2	M.Tech (CS&E)	2005	VTU, Belgaum	Computer Science & Engg.
3	B.E (CS&E)	Sep 1998	Kuvempu University	Computer Science & Engg.

### Professional Experience

	Date (from-to)	Designation	Organization
1	Since 01-01- 2011	Associate Professor Dept. of CSE	Siddaganga Institute of Technology, Tumkur
2	13-04-2007 to 31-12-2010	Assistant professor Dept. of CSE	Siddaganga Institute of Technology, Tumkur
3	02-11-2000 to 12-04-2007	Lecturer Dept. of CSE	Siddaganga Institute of Technology, Tumkur
4	22-05-2000 to 01-11-2000	Lecturer Dept. of CSE	Siddaganga Institute of Technology, Tumkur
5	02-11-1998 to 28-09-1999	Lecturer Dept. of CSE	Bapuji Institute of Engineering and Technology, Davanagere

### Affiliations of Professional organizations

- IEI

#### Awards and Honors

- NPTEL Motivated Learner
- NPTEL Discipline Star
- NPTEL Domian Certification

#### Courses Taught

##### Undergraduate Courses

- Logic Design
- Computer concepts and 'C' programming
- Software Engineering
- Computer Graphics
- Computer Networks
- Data structures and algorithms
- Computer system design and Architecture
- Embedded Systems
- Data communication
- Cryptography and network security
- Network Programming
- Multimedia Computing
- Object Oriented programming with C++
- Artificial Intelligence
- Foundations of Blockchain
- Natural Language Processing
- Computer Networks (Modified Syllabus)
- Artificial Intelligence & Machine Learning

##### Postgraduate Courses

- Client Server Programming
- Multicore Architecture and Parallel Programming
- Analytical Approach to Computer Networks
- Natural Language Processing
- Cryptography and network security
- Network Programming
- Cloud Computing
- Machine Learning and Soft Computing
- Advanced Algorithms
- Network Routing Algorithms
- Complexity Analysis and Optimization

#### Research Guidance

Sl. no	Name of the Scholar	Title	Year of completion
1.	Masana S Desai	Enhancing Healthcare Data Security using Blockchain Technology	Pursuing
2.	Swathi Paapanna Gari	Secure and Energy efficient Intelligent Routing and Data Aggregation Protocols for IoT	Pursuing
3.	Shreedevi Pramod	AI Solutions for healthcare sector	Pursuing

**Kommentiert [A1]:** Please provide the ORCID information of every author. If you don't have it, please register in: [<https://orcid.org/>].

#### Research Areas

- Security in Wireless Sensor Networks
- Artificial Intelligence and Machine Learning
- Data Science

#### Publications

##### Journals

- Akshatha Y, A. S. Poornima, Nirmala M. B, Secure Data Collection in Clustered Wireless Sensor Networks using Fuzzy based scheme to detect Malicious Data Collector, Journal of Huazhong University of Science and Technology, Volume 50, Issue 6, Pages 1-7, July 2021, ISSN-1671-4512, Paper ID: HST-0621-657.
- Shilpa H. B and Nirmala M. B, "Mobile Target Tracking Using Prediction Scheme In Wireless Sensor Networks", International Journal of Research in Engineering and Technology eISSN: 2319-1163, pISSN: 2321-7308, Volume- 05, Issue- 09, Sep-2016, Pages 149-155.
- Shruthi P, Nirmala M.B and A. S Manjunath, "Secured Modified Blooms's based Q-composite Key Distribution for Wireless Sensor Networks". International Journal on Advanced computing and Information Technology, Volume-2, Issue-3,2013, ISSN (print): 2319-2526.
- Nirmala M B and A S Manjunath," Enhanced Voting based Secure Localization for Wireless Sensor Networks", International Journal of Computer Network and Information Security, 2015, Volume 7, Issue 12, 2015, pages 52-59. (DOI: 10.5815/ijcnis.2015.12.0). .(Impact Factor 0.553).

- Nirmala M B, A S Manjunath and Rajani M, "Secure and Efficient Voting Based Localization Scheme for Wireless Sensor Networks", BIJIT -2014, BVICAM's International Journal of Information Technology. July - December, 2014, Vol. 6 No. 2, ISSN 0973 – 5658 .(Impact Factor 0.605).

#### Conference Proceedings

- P. G. Swathi and Nirmala. M B, "Optimizing Cluster Head Election in IoT Networks Using Reinforcement Learning," 2024 International Conference on Intelligent Computing and Emerging Communication Technologies (ICEC), Guntur, India, 2024, pp. 1-6, doi: 10.1109/ICEC59683.2024.10837123.
- Desai, M.S., Nirmala, M.B., Shankar, P., Sah, P., Riti, Reddy, S.S. (2024). Blockchain Organ Transplant Network with Fitness Check. In: Choudrie, J., Mahalle, P.N., Perumal, T., Joshi, A. (eds) ICT for Intelligent Systems. ICTIS 2024. Lecture Notes in Networks and Systems, vol 1109. Springer, Singapore. [https://doi.org/10.1007/978-981-97-6675-8\\_14](https://doi.org/10.1007/978-981-97-6675-8_14).
- Nirmala, M.B., Desai, M.S., Priya, A., Singh, M.R., Lamsal, P., Jha, S. (2024). Land Registry Using Ethereum Blockchain. In: Senjyu, T., So-In, C., Joshi, A. (eds) Smart Trends in Computing and Communications. SmartCom 2024 2024. Lecture Notes in Networks and Systems, vol 945. Springer, Singapore. [https://doi.org/10.1007/978-981-97-1320-2\\_39](https://doi.org/10.1007/978-981-97-1320-2_39).
- Desai, M.S., Nirmala, M.B. (2024). Survey on Non-fungible Tokens in Blockchain with Attacks and Challenges. In: Kumar, S., Balachandran, K., Kim, J.H., Bansal, J.C. (eds) Fourth Congress on Intelligent Systems. CIS 2023. Lecture Notes in Networks and Systems, vol 869. Springer, Singapore. [https://doi.org/10.1007/978-981-99-9040-5\\_18](https://doi.org/10.1007/978-981-99-9040-5_18).
- Ranjitha A.P.;Nirmala M.B. Information Retrieval on Enhanced Multiple Image Capture using Google Reverse Image Search Engine. 14th International Conference on Advances in Computing Control and Telecommunication Technologies Act 2023, Volume 2023-June, Year 2023, Pages 252-258.
- Nirmala M.B.;Chandana H.S.;Khan A.R.;Kumar B.S. Detection of Stress through Sleeping Habits 14th International Conference on Advances in Computing Control and Telecommunication Technologies Act 2023, Volume 2023-June, Year 2023, Pages 139-144.
- Srivastava A.;Farooq K.;Rakshitha B.;Kumari R.;Shruthi K.;Poornima A.S.;Nirmala M.B. Blockchain based Medical Data Asset Management System,13th International Conference on Advances in Computing Control and Telecommunication Technologies Act 2022, Volume 8, Year 2022, Pages 760-767.
- Siri A.M.;Kushala R.;Meghana J.P.;Shetty P.R.;Shruthi K.;Poornima A.S.;Nirmala M.B. Novel Approach for Disease Prediction in Healthcare using Blockchain and Machine Learning. 13th International Conference on Advances in Computing

Control and Telecommunication Technologies Act 2022, Volume 8, Year 2022, Pages 733-743.

- Azad, D.K., Shreyansh, K., Adarsh, M., Kumari, A., Nirmala, M.B., Poornima, A.S. (2022). Exploring Sleep Deprivation Reason Prediction. In: Raj, J.S., Kamel, K., Lafata, P. (eds) Innovative Data Communication Technologies and Application. Lecture Notes on Data Engineering and Communications Technologies, vol 96. Springer, Singapore. [https://doi.org/10.1007/978-981-16-7167-8\\_24](https://doi.org/10.1007/978-981-16-7167-8_24).
- Nirmala M B, Priyamvada D K, Prerana R Shetty and Pallavi Singh S, Chronic Kidney Disease Prediction using Machine Learning Techniques, 12th International Conference on Advance Computing, Control, and Telecommunications Technologies -ACT 2021, September 28-29, 2021, Hyderabad, India. (to be Scopus Indexed)
- Nirmala M.B , Haarika Reddy K.R , Mohit Sah , Shrinidhi Shastry , and Veeksha V Murthy, Cardiovascular Disease Prediction using Machine Learning Algorithms, 12th International Conference on Advance Computing, Control, and Telecommunications Technologies -ACT 2021, September 28-29, 2021, Hyderabad, India. (to be Scopus Indexed)
- Nithya Shree and Nirmala M. B, Analysis of the Data from the Twitter account using Machine Learning, 2020 5th International Conference on Communication and Electronics Systems (ICCES), COIMBATORE, India, 2020, pp. 989-993, doi: 10.1109/ICCES48766.2020.9137955.
- K. D. Patel, M. G. Siddesh, A. Agarwal, A. Nihalani, M. B. Nirmala and H. Kavitha, Autonomous Malicious Video Content Categorization Using Convolutional Neural Networks, 2020 4th International Conference on Intelligent Computing and Control Systems (ICICCS), Madurai, India, 2020, pp. 533-537, doi: 10.1109/ICICCS48265.2020.9120926.
- Manoj kumar M N and Nirmala M. B. Data Leakage Detection by Adaptive Weighted Graph Walk Model, IEEE International Conference on Communication and electronics Systems (ICCES 2019), July 17-19, 2019, PPG Institute of Technology, Coimbatore, India.
- Lakshmishree K P and Nirmala M. B, Localization in Wireless Sensor Networks with Optimization and Security Schemes-A Review, IEEE International conference on Intelligent Computing and Control Systems-ICCS 2018, Vaigai college of engineering, Madurai, 14th and 15th June 2018.
- Puneetha M.S and Nirmala M. B, Energy Efficient Power Aware VM Scheduling in Decentralised Cloud”, Proceedings of Second IEEE International Conference on Emerging Computation & Information Technologies, Siddaganga Institute of Technology, Dec 15-16, 2017.

- Nirmala M . B and A. S. Manjunath, “Framework for Secure Code Updates for Wireless Sensor nodes”, 12th IEEE Int'l Conf. on Information Technology: New Generations (ITNG 2015) April 13-15, 2015, Las Vegas, USA.
- Nirmala M . B and A. S. Manjunath, “SCUMG: Secure Code Update for Multicast Group in Wireless Sensor Networks”, 12th IEEE Int'l Conf. on Information Technology: New Generations (ITNG 2015) April 13-15, 2015, Las Vegas, USA.
- Nirmala M . B and A. S. Manjunath, Mobile Agent based Secure Code Update for Wireless Sensor Networks”, 29th IEEE International Conference on Information Networking (ICOIN2015), Korea Institute of Information Scientists and Engineers(KIISE)- SIEM REAP, CAMBODIA, 12-14 January 2015.
- Nirmala M . B and A. S. Manjunath. “Enhanced Voting Based Secure Localization for Wireless Sensor Networks” 9th IEEE International Conference on Industrial and Information Systems (ICIIS 2014), Atal Bihari Vajpayee Indian Institute of Information Technology and Management Gwalior, India, December 15-17 2014.
- Nirmala M . B and A. S. Manjunath. “Framework for Pairwise Key Establishment Protocols for Wireless Sensor Networks”, IEEE International conference on Contemporary Computing and Informatics (IC3I 2014), SJCE Mysore,India, Nov 27-29, 2014.
- Sangeetha S, Nirmala M.B and A. S Manjunath. “Gradient Descent Approach with Covert Base Station to Secure Localization in Wireless Sensor Networks”. Proceedings of International Conference on Emerging Computation & Information Technologies, Siddaganga Institute of Technology, Nov 22-23, 2013.
- Rajini M, Nirmala M.B and A. S Manjunath. “Secure Efficient Voting Based Localization Scheme for Wireless Sensor Networks”. Proceedings of International Conference on Emerging Computation & Information Technologies, Siddaganga Institute of Technology, Nov 22-23, 2013.
- Nayana, Nirmala M.B and A. S Manjunath, “Impertinent Trilateration: Localization of Wireless Sensor Network using Greedy Technique”. International conference on Computer Science and Information Technology, CSIT-2013, Hyderabad, March 9-10, 2013.
- Nandini T, Nirmala M.B and A. S Manjunath, “Trust Based Robust Position Estimation in Wireless Sensor Networks”. International conference on Advances in Recent Technologies in Communication and Computing, ARTcom 2012, Bangalore, Oct 19-20, 2012.
- Nirmala M.B, A.S Manjunath and Yogesh B.G, "Tiny SPU: Implementation and analysis of Secure Program Update for Clustered Wireless Sensor Networks". ObCom 2011 ObCom International Conference on Recent Trends in Computing, Communication and Information Technologies. VIT University, Vellore, Dec 9-11, 2011.

- Chethana Ganga, Nirmala M.B and A.S. Manjunath. "A Secure and DoS-Resistant Code Dissemination Protocol for WSN using Mobile Nodes". International Conference on Industrial Applications of Soft Computing Techniques IIASCT 2011. Bhuvaneswar, Orrisa, India, Aug 20-22, 2011.
- Nirmala M.B, A. S Manjunath." Confidential Program update with dynamic key computation for clustered wireless sensor networks". Third International Conference on Communication Systems and Networks, COMSNETS 2011, Bangalore, India, January 4-8, 2011, , DOI: 10.1109/COMSNETS.2011.5716430.
- Nirmala M.B , A.S. Manjunath. "Secure Program Update using Broadcast Encryption for clustered wireless Sensor Networks", 6th IEEE conference wireless communications and sensor Networks, IIIT-Allahabad, UP, India, December 17-19, 2010.
- Nirmala M.B , A.S. Manjunath. "Simulation and Analysis of Efficient node Admission Control for Ad Hoc Networks" Proceedings of International conference on Advanced Computing and communication Technologies for High performance Applications, FISAT, Ernakulam, Kerala, September 24-26, 2008.
- Nirmala M.B, B.B Amberker, Prashant Koulgi. "Some Implementation issues on Broadcast Encryption schemes". ADCOM-2006 an International Conference, NITK, Surthkal, 19th to 23rd December 2006.

#### Book Chapters

- Azad, D.K., Shreyansh, K., Adarsh, M., Kumari, A., Nirmala, M.B., Poornima, A.S. (2022). Exploring Sleep Deprivation Reason Prediction. In: Raj, J.S., Kamel, K., Lafata, P. (eds) Innovative Data Communication Technologies and Application. Lecture Notes on Data Engineering and Communications Technologies, vol 96. Springer, Singapore. [https://doi.org/10.1007/978-981-16-7167-8\\_24](https://doi.org/10.1007/978-981-16-7167-8_24).