

Faculty Profile

Name	: Dr. Nandini B M	
Designation	: Associate Professor & Deputy Dean (R&D)	
Department	: Computer Science and Engineering	
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About Dr. Nandini B M:

Dr. Nandini B M is an accomplished Associate Professor and Deputy Dean (R&D) at The National Institute of Engineering, Mysuru, with over 20+ years of academic and research experience in Information Science & Engineering. Her expertise spans Digital Image Processing, Machine Learning/Deep Learning, Computer Networks, and Cybersecurity. She holds a Ph.D. in Digital Image Processing, an M.Tech in Computer Networks, and a B.E. in Computer Science & Engineering. She has a strong record in teaching, mentoring postgraduate research, curriculum development, and academic leadership, having served in roles such as Research Ambassador, Chief Mentor for the Cybersecurity Center of Excellence, and member of key institutional bodies (NBA, NAAC, BoS, BoE). Dr. Nandini is a Certified Cyber Crime Intervention Officer (CCIO) by ISAC and actively contributes to national cybersecurity awareness initiatives. Her research credentials include funded projects from ICSSR, multiple national-level project proposals to DST, AICTE, and KITS. She has an extensive research publication record comprising peer-reviewed journal articles and conference papers in reputed national and international venues. She has published in Scopus- and ESCI-indexed journals, including Q2 and Q3 categories, and has presented her work at several international conferences, contributing to advancements in intelligent systems, computer vision, and secure computing. She also serves as a reviewer for Q1 journals, reflecting her standing in the research community and commitment to maintaining high scholarly standards. Dr. Nandini B M has played a key role in organising and coordinating national-level workshops, conferences, bootcamps, and hackathons. Notable contributions include coordination of Cybersecurity and Ethical Hacking Awareness Workshops in collaboration with national agencies, Smart India Hackathon 2024, national IDE bootcamps, and AI-focused academic summits. She has actively facilitated faculty development programmes, student workshops, and industry academia interaction events, promoting research culture, innovation, and entrepreneurship. Her efforts have significantly contributed to capacity building in cybersecurity, AI, and emerging technologies at both institutional and national levels.

Qualification:

Degree	University / Institute	Year of Passing	Discipline/Specialization	Percentage of marks/CGPA
Graduate Degree (UG)	VTU	2002	Computer Science & Engineering	FCD
Post Graduate Degree (PG)	VTU	2009	Computer Networks & Engineering	7.91
Ph.D.	VTU	2024	Doctor of Philosophy in faculty of Electrical & Electrical Engineering Sciences	

COURSES TAUGHT:

UG Courses:

C, C++, Python, Data Structures, Discrete Mathematical Structures, Graph Theory, Computer Organization, Operating System, File Structures, Analysis and Design of Algorithms, Data Communication, Computer Networks, Wireless and Mobile Communications, Cryptography and Network Security, Cyber Security, Machine Learning, Research Methodology and IPR, Natural Language Processing Python programming, Social Connect and Responsibility.

PG Courses:

Information and Network Security.

LIST OF RESEARCH PUBLICATIONS:

JOURNAL PUBLICATIONS:

1. **Nandini B.M**, Sharmila B.S., et. al., "Performance Evaluation of Parametric and Non-Parametric Machine Learning Models using Statistical Analysis for RT-IoT2022 Dataset". In. *Journal of Scientific and Industrial Research*, 2024, 83(8), pp. 864–872. DOI: <https://doi.org/10.56042/jsir.v83i8.7437> [ESCI, Scopus – Q3 journal]
2. **Nandini B.M** and N. Kaulgud. (2024). "Dark Channel Prior in Low Frequency Domain for time-efficient Single Image dehazing". In. *International Journal of Image and Data Fusion*, DOI:10.1080/19479832.2024.2314503. [ESCI, Scopus - Q2 journal]
3. **Nandini B.M** and N. Kaulgud. (2023). "Relative Depth Prediction of Objects in Hazy Images Using Depth-map and Object Detection". In. *International Journal of Intelligent Systems and Applications in Engineering*, 12(1), 267276. DOI: <https://ijisae.org/index.php/IJISAE/article/view/3891>. [Scopus - Q3 journal]
4. Jyothi M and **Nandini B M**, "Fog Density Estimation and Elimination of Fog in Single Image", *International Journal of Innovative Research in Technology(IJIRT)* © July 2022, Volume 9 Issue 2 | ISSN: 2349-6002.

5. **Nandini B M and N. Kaulgud**, "A Study of Various Approaches for Enhancement of Foggy/Hazy Images", *International Journal of Computer Science & Information Security(IJCSIS)* , Volume 14, Special Issue, 82-89, October 2016.

CONFERENCES PUBLICATIONS:

1. **Nandini B.M**, Sharmila, B.S, Kavitha S S, Kondam Akshay Reddy, "Advancing Road Safety: A YOLOV8-Based Approach to Automated Traffic Violation Detection and Enforcement", In. International Conference on Next Generation Communication & Information Processing (INCIP-2025).
2. Kavitha S S, Sharmila, B.S, **B. M. Nandini**, "Quantum Shor's algorithm v/s classical General Number Field Sieve (GNFS) approach for large integer factorization" In. International Conference on Next Generation Communication & Information Processing (INCIP-2025)Next Generation Communication & Information Processing (INCIP 2025) .
3. **Nandini B.M** and N. Kaulgud, "Wavelet-based method for enhancing the visibility of hazy images using Color Attenuation Prior". In. International Conference on Recent Trends in Electronics and Communication (ICRTEC), Mysore, India, 2023". pp. 1-6, DOI: 10.1109/ICRTEC56977.2023.10111879. [Scopus]
4. **Nandini B.M** and N. Kaulgud. "Performance Comparison of Dehazing Algorithms on different platforms". In. 1st International Conference on Advanced Technologies in Intelligent Control, Environment, Computing Communication Engineering (ICATIECE), Bangalore, India". 2019, pp. 322-326, DOI:10.1109/ICATIECE45860.2019.9063829. [Scopus]
5. Jyothi M and **Nandini B.M** , "Fog removal in Single Image using methods: a survey", *International Conference on Recent Trends in Science & Technology ICRTST 2022*, 14th and 15th July 2022.
6. **Nandini B.M** and N. Kaulgud "**Modified Dark Channel Prior for Effective haze removal in indoor and outdoor images**", *National Conference on Communication, Signal Processing, IoT, Networking and Embedded Application (NCCOSINE-2018)* @ NIE, Mysuru.
7. **Nandini B.M** and N. Kaulgud, "**Effective Hazy Image restoration using Color Attenuation Prior**", International Symposium on Cloud Computing and Data Analytics- 2017.

OTHER PUBLICATIONS:

JOURNAL PAPERS

1. "**Novel approach for content management system using MERN technology**", International Research Journal Of Modernization in Engineering Technology and Science(IRJMETS), Volume:04/Issue:07/July-2022, e-ISSN: 2582-5208, pg:1305-1311.

2. **"Metal Surface Defect Detection and Quality Evaluation Using Deep Learning"**, International Journal of Innovative Research in Technology(IJIRT), © July 2022 | IJIRT Volume 9 Issue 2 | ISSN: 2349-6002.
3. **"Employment performance monitoring using WMI and OpenCV"**, IJRCCE, Volume 8, Issue4, pg 1044-1051, April 2020.
4. **"Remote Monitoring of patients using the IoT Widget through HrutGati android application"**, IRJET, Volume 7, Issue 5,pg 865-869, May 2020.
5. **"Movie Recommendation System using Apache Spark"**, AIJR, Volume 1, 978-81-936820-0-5, pp.280-286, 28th April 2018.
6. **"Evidence Aggregation Based Spam Detection in E-Commerce Social Network"**, AIJR, Volume 1, 978-81-936820-0-5,pp.467-473, 28th April 2018.
7. **"Attendance System Using GPS, Fingerprint Scanner with Machine Learning and Data Analytics"**, IJMETMR, Volume 4, Issue 4, 628-630, April 2017.
8. **"Survey on Trust Management Mechanism in Cognitive Radio Network"**, IJRET, Volume 4, Issue 5, 7 May 2017.
9. **"Attendance generation using facial recognition"**, IJRTER journal, Volume 2, Issue 5, 338-342, May 2016.
10. **"Automatic Attendance System Using Facial Recognition"**, IJMTER journal, Volume 3, Issue 4, 362-365, April 2016.
11. **"Optimization of Bandwidth for IoT"**, IJARCCCE journal, Volume 5, Issue 4, 362-365, April 2016.
12. **"Detection of Asthma using Nano Bio-Sensors through data mining principles"**, IJMTER journal, Volume 3, Issue 6, 11-20, April 2016.
13. **"Efficient Query Services In the Cloud with RASP Perturbation"**, IJAER Journal, Volume 10, Issue 1, 32570-32577, May 2015.
14. **"Smart Decision Manager for agriculture and deployment"**, IJMTER journal, Volume 2, Issue 4, 644-647, April 2015.
15. **"Street Light Monitoring and Controlling System"**, IJMTER journal, Volume 2, Issue 4, 226-232, April 2015.
16. **"Software Project Planner and Controller"**, IJSRD journal, Volume 3, Issue 3, 3241-3243, May 2015

CONFERENCE PAPERS

1. **"Secure Voting System Using Hardware key based sessions"**, Third National Conference on Engineering Innovations & Solutions (NCEIS-2019) at GSSSIETW, Mysuru, 23rd April 2019.
2. **"Mouse Pointer Navigation Using SST Microcontroller"**, Third National Conference on Engineering Innovations & Solutions (NCEIS-2019) at GSSSIETW, Mysuru, 23rd April 2019.
3. **"Evidence Aggregation Based spam Detection in E-Commerce Social Network"**, 3rd National Conference on Image Processing, Computing, Communication, Networking & Data Analytics(NCICCND-2018).
4. **"Fingerprint scanner and location based attendance system using Machine Learning and Data Analytics"**, International Symposium on Cloud Computing and Data Analytics- ISCCDA2017, 17th and 18th March 2017.

5. **"Efficient and Secure Group Communication Using Broadcast Encryption"**, International Symposium on Cloud Computing and Data Analytics- ISCCDA2017, 17th and 18th March 2017.
6. **"Detection of Asthma using Nano Bio-Sensors through data mining principles"**, 2nd National Conference on Emerging Trends in Computer Science and Engineering (NCETCSE 16).
7. **"Congestion Control to Avoid Packet Loss in Data Centric Networks"**, National Conference on "Recent Innovations in Science and Engineering RISE 2015" organized by PESIT, Bangalore.
8. **"Efficient Query Services in the cloud using RASP Data Perturbation"**, National Conference on "Recent Innovations in Science and Engineering RISE 2015" organized by PESIT, Bangalore.

ACHIEVEMENTS:

- **25 Citations, h-index: 3, i10-index:1.**
- **Center Head, Cybersecurity Center of Excellence (CCoE).**
- **Research Ambassador for department of ISE.**
- **Submitted project proposal worth 50 lakhs to DST under Scheme for Young Scientist and Technologist(SYST) in April 2025.**
- **Submitted for "Award for Outstanding Research Publication" under VGST for the AY 2023-24.**
- **Research grant awarded by Indian Council for Social Science Research (ICSSR) for the project proposal titled "Proactive Detection and Mitigation Strategies for AI and ML- based Cyber Attacks in 5G O-Ran Architecture" in the field of Innovation and Technology with Cyber Security as theme (Budget: 12 Lakhs)**
- **Got MoU signed between NIE and Maharani Arts College, Mysuru for collaboration on the research project approved by ICSSR.**
- **Submitted a project proposal titled "AgriLink: An IoT-Based Ecosystem for Delivering Accurate Input Costs and Market Intelligence to Enhance Farm Productivity and Profitability" to ATMAN 2.0 under TIH-IoT.**
- **Published two research papers in Scopus indexed journals (Q2 and Q3).**
- **Reviewer for Q1 Journal .**
- **Worked as Teaching Assistant for NPTEL.**
- **Certified by ISAC as CCIO (Cyber Crime Intervention Officer) nation wide**
- **Delivered talks on "Cyber security awareness" to NCC cadets.**
- **Coordinated the national level IDE bootcamp- Phase II (29th Jan 2024 – 2nd Feb 2024)**
- **Being member of sponsorship committee, bought sponsorship of one lakh rupees for AI Summit 2023.**
- **Coordinated Cyber Security and Ethical Hacking Awareness Workshop organised by National Critical Information Infrastructure Protection Centre (NCIIPC), Ministry of Education's Innovation Cell (MIC) and AICTE.**
- **Secured 5th rank in PGCET.**

KEY RESPONSIBILITIES:

- Center Head, Cybersecurity Center of Excellence (CCoE)
- Teaching using ICT
- Student Counselling
- Project Guidance
- Coordinate department and college level activities.
- Department Coordinator for NEP committee
- Member of Board of Examination, Board of Studies.
- Member of Departmental Industrial Advisory Board(DIAB),
- Member of Departmental Alumni Advisory Board(DAAB)
- Member of Cultural Committee (Kala samhita)
- Coordinator for Massive Open Online Courses (MOOCs)
- Coordinator for VLab at department level
- Coordinator for Matlab at department level
- Member of Anti-ragging and Flying Squad committees
- Editorial Member of departmental Newsletter
- NBA - Criteria 2 coordinator
- Seminar Coordinator
- Minor Project Coordinator
- Time-Table Coordinator
- Lab Coordinator
- Squad Member for Hostel Visit

CERTIFICATIONS:

- Nationwide "Cyber Crime Intervention Officer " certified by Information Sharing and Analysis Center (ISAC)
- "Network Security Fundamentals", Paloalto
- "Cloud Security Fundamentals" , Paloalto
- "Cybersecurity Foundation", Paloalto
- "Introduction to Machine Learning with Python" from Coursera
- "Innovative Teaching with ChatGpt", from Coursera
- "Introduction to Cyber Attacks", from Coursera
- "Neural Network and Deep Learning", from Coursera
- "Machine Learning Foundations: A Case Study Approach", from Coursera

- "Applied Machine Learning in Python", from Coursera
- "Convolutional Neural Networks", from Coursera
- "Joy of Computing using Python", NPTEL
- "Introduction to IoT", NPTEL
- "Introduction to Research", NPTEL

WORKSHOPS ORGANIZED/ COORDINATED:

1. Skill development program on "Web Application Pentesting" from 10th – 14th Feb 2025 under Cybersecurity Center of Excellence (CCoE).
2. 5 Days Offline FDP on "Hack, Defend, Secure: A Journey into Cybersecurity Fundamentals", From 3rd Feb to 7th Feb 2025
3. Departments of Computer Science and Engineering & Information Science and Engineering in association with Cybersecurity Center of Excellence.
4. Skill development program on "Professional Ethical Hacking" from 9th – 13th Sept 2024 under Cybersecurity Center of Excellence (CCoE).
5. "Cyber Security and Ethical Hacking Awareness Workshop", 7th March 2024, under NCIIPC, MIC and AICTE at NIE.
6. "Innovation, Design and Entrepreneurship (IDE) Bootcamp Phase-II, 29th – 2nd Feb 2024, at NIE, organized by MIC and AICTE.
7. Member of Sponsorship Committee for AI Summit 2023 Towards Smart Sustainable Society [AISSS2023], 22nd and 23rd December 2023.
8. "The Heritage Walk" on December 8, 2022, Department of Information Science & Engineering, NIE, Mysuru in collaboration with the Department of Archaeology, Museums, and Heritage.
9. Field visit to the forest department nursery near Bandipalya, Mysuru as a part of Plantation and adoption of trees at NIE.
10. Field visit to Sewage Treatment Plant(STP) at NIE North Campus on 22nd Feb 2023.
11. Field visit on 28-01-23 to the "Kanana Organic Farm" located in Baradanapura, Jayapura Hobli, Mysuru.
12. Cyber awareness program on "See Yourself in Cyber", 21st Oct 2022.
13. "Minor Project Exhibition-2022", 24th September 2022.
14. Two-day SDP on "Effective ways of Writing Research Articles using LaTeX", 8th and 9th April 2022.
15. Three Day National Level SDP for girls on "BharathIS – 2021- Series 1", 11-08-2021 to 13-08-2021.
16. Two days workshop for Non-Teaching staff on "General Awareness on Cybercrime and its Precautions", 6th and 7th April 2021.
17. Twinning activity: Two days online FDP on "Road Map to Current Technology Management", 27th and 28th Nov 2020.
18. 3-Day FDP on STHREE, 1st- 3rd Jan 2020.
19. Online SDP on "Basic Computer Vision with Python", 16th – 20th June 2020.
20. One Day FDP and SDP on "Docker and Kubernetes", 12th Oct 2019 under TEQIP-III.
21. One Day SDP on "Introduction to IoT and Cloud Computing", 10th Nov 2018, Dept of ISE, TEQIP-III .

22. "Opportunities in the area of Security and Industry trends", 16th April 2018, Association of Computer Engineers-ACE 2018
23. One-day Workshop on "Network Simulation", 9th December 2017, Conducted by ISE Department, Under TEQIP III.
24. Three day Workshop on "An Insight on Android Application Development", 26th-28th March 2017, Conducted by CS Division, Under TEQIP II
25. One-day Seminar on "Swamy Vivekananda Teachings Youth Today", 17th Jan 2017, NIE, under TEQIP-II
26. Two day workshop on "Introduction to Network Security and Cloud Computing – An Industry Perspective", 21st and 22nd Nov 2016, Conducted by CS Division, Under TEQIP II
27. Seminar on "Technology for Millennials", 9th and 10th April 2016 Two-day State Level Seminar conducted by Electrical Sciences Division and Computer Science Division under TEQIP-II
28. One week workshop on " Current trends in Digital Image Processing techniques and applications", 27th – 31st July 2015 Computer science division and Dept. of E&C.
29. Seminar on "Awareness of Cybercrime", 29th Oct 2015, Computer Science Division in association with ACE.

WORKSHOPS ATTENDED:

More than 40 workshops attended. Some of them are:

1. 3-day immersive in-person Faculty Development Program on "An Accelerator for Cybersecurity Educators", 3rd to 4th April 2025, Paloalto, Bengaluru.
2. AICTE Training And Learning (ATAL) Academy Faculty Development Program on **Cyber Security and Intrusion Detection Forensics** at **DON BOSCO INSTITUTE OF TECHNOLOGY** from **20/01/2025** to **25/01/2025**.
3. AICTE Training And Learning (ATAL) Academy Faculty Development Program on SMART COMPUTING AND ITS APPLICATIONS IN CYBER DEFENSE & DIGITAL FORENSIC at JALPAIGURI GOVERNMENT ENGINEERING COLLEGE from 16/12/2024 to 21/12/2024.
4. 5-day Faculty Development Program on "Building Web Development Solutions with Cloud Computing" under the Next Gen Employability Program from 02-09-2024 to 06-09-2024.
5. Faculty Enrichment Program at LTIMindtree on 17th April 2024.
6. One Week National Level Faculty Development Programme on "Essential Mathematics for Data Science and Machine Learning". Organized by the Department of Artificial Intelligence and Machine Learning, Chaitanya Bharathi Institute of Technology (Autonomous), Hyderabad, from 5th to 9th February 2024.
7. Five Days Online Faculty Development Programme on "Artificial Intelligence & Machine Learning for Satellite Image Analysis- MATLAB & Python Perspective" Conducted by the Department of Electronics & Communication Engineering, CMR Institute of Technology, Bengaluru from 20th to 24th November 2023.
8. 10-day online FDP on "Data Science and its applications", NIT Warangal and NIT Raipur, 7th to 16th March 2022.
9. Five Days National Level Workshop on "Academic & Research Writing", at ATME College of Engineering, Mysuru. 25th, 26th March & 29th to 31st March 2021.

10. "Writing research proposal & awareness on IPR (Information Technology)", at
11. One-week Faculty Development Programme on "Artificial Intelligence and its Applications", at SJCE, Mysuru from 24 May 2021 to 29 May 2021.
12. One-week FDP on "Moodle by Tagore Institute of Engineering and Technology", Attur, Chennai under MHRD, 4th May to 9th May 2020.
13. Six-week FDP on "Digital Transformation in Teaching Learning Process", Swayam Online, 6th April to 22nd April 2020.
14. Two-week FDP on "E-Learning resource creation – A Beginning Towards New Era of E-Learning", DY Patil College of Engineering, Kolhapur, 8th June to 20th June 2020.
15. One week FDP on "Wavelet via Matrices and its Applications in signals and image processing", IIT Indore, 16th Nov 2020 to 21st Nov 2020.

HONOURS/AWARDS/DISTINCTION RECEIVED:

1. Reviewer for the Journal of Visual Communication and Image Representation (Q1 Journal).
2. Teaching Assistant for NPTEL Online Certification course NPTEL, IIT Madras, Jan-April 2021.
3. Elite-Silver NPTEL Certificate on "Joy of Computing using Python", NPTEL funded by the Ministry of HRD, Govt. of India, Jan- April 2019.
4. Elite - NPTEL online certification on "Introduction to IoT, NPTEL funded by the Ministry of HRD, Govt. of India, July- Oct 2018.
5. Elite - NPTEL online certification on "Introduction to Research", NPTEL funded by the Ministry of HRD, Govt. of India, JUL-SEPT 2017
6. The Best Poster Presentation award for "Fingerprint Scanner and Location Based Attendance System Using Machine Learning and Data Analytics", International Symposium on Cloud Computing and Data Analytics(ISCCDA17), NIE, Mysuru. March 17-18, 2017.
7. 5th rank in PGCET

RESOURCE PERSON:

1. 5 days FDP on "Advanced Automation", 24th Feb-1st March 2025, conducted by NIE AICTE Idealab.
2. "Cybercrime Awareness Programme for NCC cadets", for cadets of 14 Karnataka Battalion on 7th May 2024.
3. "Cybercrime Awareness with emphasis for NCC cadets", for cadets of 13 Karnataka Battalion on 18th May 2024.
4. At Intra internship on "Introduction to Python Programming", 20th and 27th March 2023, organized by the department of ISE, NIE, Mysuru.
5. At Cybercrime awareness month on "See yourself in Cyber", on 21st October 2023
6. 2-Day SDP on "Effective ways of writing research articles using LaTeX", on 8th & 9th April 2022, Organized by Department of ISE, NIE, Mysuru.

7. "Awareness on Cybercrime, threats, and its Security" for students and teachers of JSS Public School on 4th Jan 2022.
8. Expert talk on "General awareness on Cybercrime and its precautions", at the two day workshop from 6th - 7th April 2021 at NIE, Mysuru.
9. At 5-Day FDP on "Digital Image Processing" from 8th to 12th July 2019 organized by Dept. of Electronics and Instrumentation, GSSS ITW, Mysuru.
10. At 5-Day FDP on "Advanced Image Processing using MATLAB" from 15th to 19th July 2019, organized by Channabasaveshwara Institute of Technology, Gubbi-Tumkur.
11. At Four-week summer internship program for REC, Banda, UP, on "LaTeX" from 25th and 26th June 2019 and from 25th and 26th June 2018, under TEQIP-III.
12. Judge for Debate competition on "Eradicate corruption- Build a New India", 3rd Nov 2018, organized by Vigilance awareness week-2018 by BEML Limited.
13. Judge for "Speak for India- Karnataka Edition", on 11th Sept 2018, ToI, Vijaya Karnataka.
14. Technical talk on "Awareness of Cyber Crime", on 21st Sept 2015, organized by JSS Polytechnic for Women, Mysuru.