

Faculty Profile

Name : Dr. Mayura Tapkire Designation : Associate Professor Department : Information Science & Engineering Contact Details : 8867701231 E-mail : mayura@nie.ac.in	
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About me:

Dr. Mayura Tapkire is currently working as an Associate Professor at the National Institute of Engineering (NIE) with over 11 years of teaching experience. She is a dedicated and passionate educator who believes in continuous learning and strives to inspire students through innovative teaching and research. She holds a Ph.D. in Computer Science and Engineering and was a University Rank holder in her B.E. degree. Prior to joining academia, she worked as a Software Engineer at Syntel Pvt. Ltd., Pune for 2 years.

Her research lies in Artificial Intelligence and Machine Learning, with interests in Deep Learning, AI in Healthcare, Medical Image Analysis, and Food-Tech Systems. She has published several research articles in reputed SCIE/WOS indexed journals, international conferences, book chapters, and patents. She serves as a reviewer for more than 20 reputed Q1/Q2 journals and has completed several certifications from Coursera, NPTEL, IUCEE and ICT platforms.

She actively contributes to the department as Internship/Seminar Coordinator, BOS/BOE member, DAAB Member Secretary, Newsletter Coordinator, and at the institute level as Cultural Coordinator, Class Committee Member Secretary, and Research Coordinator. She is serving as a mentor for the NIE IUCEE Inter-Department Student Club. She has coordinated major institutional events including the Smart India Hackathon for three consecutive years and contributed to the IDE Boot camp conducted at NIE as a nodal centre.

Qualification:

- B.E. in Computer Science and Engineering, from Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Maharashtra.
- M.E. in Computer Network Engineering, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Maharashtra,

- Ph.D., JSS Science & Technology University Mysuru

Courses Taught: (Recent years)

For UG: Machine Learning, Deep Learning, Cryptography and Network Security, Cloud Computing

For PG: Cloud Computing, Social Networks, Wireless Adhoc Networks, Research Methodologies

Publications:

Journal Publication:

1. M. Naganna, G. R. Nayaka, N. Mahadev, and **M. Tapkire**, “FedProx-Enhanced Federated Transfer Learning for Heterogeneous 3D Medical Image Classification,” *Journal of Computational and Cognitive Engineering*, 2026. (**Scopus Q1**)
2. M. Natesh, H. S. Ranjan Kumar, K. Vinutha, **M. Tapkire**, S. Sulthana, K. R. Swetha, and K. N. Bharath, “Improved Diabetes Detection Through Integration of External Risk Factors and Machine Learning Techniques,” *SN Computer Science*, vol. 6, no. 8, pp. 1–18, 2025. (**Scopus Q1**)
3. **M. Tapkire**, V. Arun, M. S. Lavanya, and R. Shashidhar, “Gluten identification from food images using advanced deep learning and transfer learning methods,” *Journal of Food Science and Technology*, vol. 62, no. 6, pp. 1164–1172, 2025. (**WOS Q2**)
4. M. S. Lavanya, V. Arun, **M. Tapkire**, and S. K. P., “Transfer Learning Based Facial Emotion Recognition,” *SN Computer Science*, accepted, 2024. (**Scopus Q1**)
5. M. S. Vani, H. Y., V. Arun, M. A. Anusuya, **M. D. Tapkire**, and Lavanya, “A comprehensive survey of data pre-processing techniques for audio, video, and text: Approaches and Applications,” *African Journal of Biological Sciences*, vol. 8, no. 6, pp. 496–519, 2024.
6. **M. D. Tapkire**, S. K. P., A. R., H. D., M. Tiwari, and S. Deb, “Personalized health assistant using machine learning,” *Journal of Emerging Technologies and Innovative Research*, vol. 6, no. 11, pp. 109–113, 2024.
7. **M. Tapkire**, V. Arun, and M. S. Lavanya, “HML-PCD: A Hybrid Machine Learning Technique for Early Prediction and Classification of Celiac Disease,” *International Journal of Intelligent Systems and Applications in Engineering*, vol. 3, no. 12, pp. 1338–1346, 2024.

8. **M. D. Tapkire** and V. Arun, “Application of artificial intelligence to correlate food formulations to disease risk prediction: A comprehensive review,” *Journal of Food Science and Technology*, vol. 60, pp. 2350–2357, 2023. **(WOS Q2)**
9. N. R. Ravikumar, C. Prateek, S. Bhandar, R. Kumar, and **M. D. Tapkire**, “Virtual Voice Assistant,” *International Research Journal of Engineering and Technology (IRJET)*, vol. 7, no. 4, Apr. 2020.
10. N. M. Pragathi and **M. D. Tapkire**, “Implementing Arbitrary Precision in JavaScript Runtime,” *International Journal of Innovative Research in Computer and Communication Engineering*, vol. 8, no. 4, Apr. 2020.
11. P. M. Likhitha, S. N. Kulkarni, G. Rashmi, K. V. Rashmi, and **M. D. Tapkire**, “Object Detection and Image Labelling using Machine Learning Technique,” *International Journal of Research in Electronics and Computer Engineering*, vol. 7, no. 2, Apr.–Jun. 2019.
12. **M. D. Tapkire**, B. M. Patil, and V. M. Chandode, “Parallel Data Processing in the Cloud using Nephelē,” *International Journal of Computer Applications*, vol. 69, no. 17, May 2013.
13. **M. D. Tapkire** and B. M. Patil, “Efficient Parallel Data Processing in the Cloud using Nephelē,” *International Journal of Advances in Management, Technology & Engineering Sciences*, vol. 1, no. 6, Mar. 2012.

National/ International Conference Papers:

1. S. Manjunath, R. Shashidhar, M. P. Shashank, **M. Tapkire**, M. Roopa, and S. Kruthika, “Advancing Dermatological AI: A Unified Deep Learning Pipeline for Skin Lesion Analysis,” in *Proc. 2025 2nd Asia Pacific Conf. on Innovation in Technology (APCIT)*, Sep. 2025, pp. 1–7.
2. R. Shashidhar, P. Vasishta, A. Hegde, J. Madhura, M. Roopa, and **M. D. Tapkire**, “Early Detection of Heart Blockages: The Power of AI and Feedforward Neural Networks,” in *Proc. 2025 Int. Conf. on Electronics, Computing, Communication and Control Technology (ICECCC)*, May 2025, pp. 1–6.
3. **M. D. Tapkire** and V. Arun, “A Survey on Celiac Disease Prediction Using AI Techniques,” in *Proc. Int. J. Adv. Res. Comput. Commun. Eng.*, 2022

Book Chapters

1. M. S. Lavanya, V. Arun, **M. Tapkire**, and Y. Shichkina, “A Review on Facial Expression Recognition Approaches, Datasets and Technologies,” in *Proc. International Conference on Intelligent Systems*, Cham, Switzerland: Springer Nature Switzerland, Dec. 2024, pp. 53–68.
2. V. Arun, B. M. Shashikala, H. Y. Vani, **M. Tapkire**, M. A. Anusuya, and M. S. Lavanya, “Object Detection Using TensorFlow for Road Navigation: Enhancing Safety for the Visually Impaired,” in *Proc. International Conference Summit on Artificial Intelligence*, Singapore: Springer, 2024, pp. 209–220.

Patents

Granted:

1. AI-ENHANCED SMART GLASS, Design no-432749-001, Date of publication-4/10/2024
2. SMART PEN WITH INBUILT WIPES AND MOBILE STAND, Design no-431281-001, Date of publication-22/09/2024

Filled:

1. Smart Spoon with stabilizing handle
2. Urban Smart-Traffic Coordination Node with Machine –Learning Flow Optimization

Poster Presentation

Presented a poster on “Enhancing Dietary Management for Celiac Disease Patients_Using AI and Nutrition Analysis” in 9th International Food Convention (IFCoN) , 7-9 December 2023.

Awards & Recognitions

1. For UG project, received funding under the **NIE RPS Scheme (2025–26)**.
2. Received “**1970 Alumni Award**” for the Best Paper Publication by Faculty for 2022 at The National Institute of Engineering, Mysore, Karnataka.
3. Received the **Best Trainee Award (2007) at Syntel Pvt. Ltd.** for excellence in J2EE platform training.
4. Secured **University 4th Rank** in B.E. (Computer Science and Engineering)

Professional Activities

- Served as **Session Chair** at the *International Conference on Emerging Technologies in Electronics and Green Energy (ICETEG-2025)*, 11 October 2025.
- Reviewer for **more than 20 reputed Q1/Q2 journals**.
- Served as a **Jury Member for the Mysuru Subsection round of Anveshan 2025**, a 24-Hour Hackathon organized by the **IEEE Bangalore Section SAC** and hosted at **SJCE, JSS STU**, on 27 October 2025.
- Served as a **Jury Member for BUILDATHON – Prototype Presentation Competition** organized by **Anvaya, the NIE-IUCSEE Student Chapter**, at NIE Mysuru, September 2025.
