Curriculum Vitæ

Nitin Kumar

1 Personal Details

First Name:	Nitin
Last Name:	Kumar
Place of Birth:	Agra, India
Citizenship:	Indian
Position:	Assistant Professor
Institute:	Shiv Nadar Institute of Eminence, Noida, India
Email Address:	nitin.kumar@snu.edu.in
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2 Academic Career

2.1 Professional Experience

2023–present	**Assistant Professor** Shiv Nadar Institute of Eminence, Noida, India
2021–2023	**Research Engineer-II**, Philips (Research), Bengaluru, India
2019–2021	**Assistant Professor**, LNMIIT Jaipur
2014–2020	**PhD Candidate**, Indian Institute of Technology (IIT) Bombay, India
2013–2014	**Member of Technical Staff**, VMWare Software India Pvt. Ltd., Bengaluru, India
2010–2010	**Guest Faculty**, National Institute of Technology, Jaipur, India

2.2 Education

2014–2020	**PhD**, Medical Image Computing and Applied Machine Learning, Indian Institute of Technology Bombay, India Title: "Robust Kernel-based Unsupervised and Semi-supervised Learning for Abnormality Detection in Medical Images" Viva: 12/03/2020

	Jury: • Guides: – Suyash Awate, Indian Institute of Technology Bombay, India – Ajit Rajwade, Indian Institute of Technology Bombay, India • Referees: Shabbir Merchant, Indian Institute of Technology Bombay, India • Reviewers: – Sharat Chandran, Indian Institute of Technology Bombay, India – Arnav Bhavsar, Indian Institute of Tehcnology Mandi, India
2011–2013	**Master of Engineering (ME), Computer Science and Engineering**, Indian Institute of Science, Bengaluru, India
2003–2007	**Bachelor of Technology, Computer Science and Engineering**, National Institute of Technology, Warangal, India

3 Research Activities

3.1 PhD Supervision and Co-supervision

2024–present	**Tejaswi Abburi**—Shiv Nadar Institute of Eminence, Noida, India **Title**: "Unsupervised Crossing Fiber detection in Multishell Diffusion MRI using Neural network" **Director**: Saurabh Shigwan (50%) **Co-director**: Nitin Kumar (50%) **Status**: ongoing
2024–present	**Laxman aadithya Singanalluri venkatakrishna**—Shiv Nadar Institute of Eminence, Noida, India **Title**: "Open Set Recognition in Computer Vision" **Director**: Snehasis Mukherjee (50%) **Co-director**: Nitin Kumar (50%) **Status**: ongoing

3.2 Bachelor Students Supervision

2024–2026	Arnav Aditya, (Shiv Nadar Institute of Eminence) "Openset Recognition in Computer Vision"
2024	Mudit Adityaja, (Shiv Nadar Institute of Eminence) "Unsupervised Medical Image Segmentation"
2024	Bodduluri Saran, (Shiv Nadar Institute of Eminence) "Image Segmentation using Graph Neural Networks "
2024	Kovvuri Sai Gopal Reddy, (Shiv Nadar Institute of Eminence) "Image Segmentation using Graph Neural Networks "

3.3 Teachings

2025–2025	**SNIOE** , Noida, India Introduction to Machine Learning and Advanced Machine Learning
2023–2025	**SNIOE**, Noida, India

	Foundation of Data Science
2023–2025	**SNIOE**, Noida, India Introduction to Probability and Statistics
2019–2021	**LNMIIT**, Jaipur, India Introduction to Artificial Intelligence
2019–2020	**LNMIIT** , Jaipur, India Computational Linear Algebra
2021–2021	**LNMIIT** , Jaipur, India Mathematical Structures for Engineers

4 Academic Service and Scientific Diffusion

4.1 Scientific Evaluation

4.1.1 Reviewing

Journal Peer Review

- IEEE Transactions on Medical Imaging
- IEEE Transactions on Internet of Things

Conference Peer Review

- MICCAI 2019, 2020
- BMVC 2024, 2025, 2026

4.2 Notable Invited Talks

April. 2020	"Unsupervised and Semisupervised Learning for Abnormality Detection in Medical Images", Indian Institue of Technology Roorkee, Roorkee, India.
May. 2020	"Unsupervised and Semisupervised Learning for Abnormality Detection in Medical Images", IIIT Bangalore, Bengaluru, India.

5 Publications

Journal Articles

[J1] N. Kumar and S. P. Awate, "Semi-supervised robust mixture models in rkhs for abnormality detection in medical images," *IEEE Transactions on Image Processing*, vol. 29, pp. 4772–4787, 2020.

Conference Proceedings and Presentations

[CP1] V. T. Abburi, A. Singhal, S. J. Shigwan, and N. Kumar, "Armarecon: An arma convolutional filter based graph neural network for neurodegenerative dementias classification," in *2026 IEEE 23rd International Symposium on Biomedical Imaging (ISBI)*, IEEE, 2026, pp. 1–4.

[CP2] A. Aditya, N. Kumar, and S. Shigwan, "Ucdsc: Open set uncertainty aware deep simplex classifier for medical image datasets," in *Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision*, 2026, pp. 4787–4796.

[CP3] A. M. Adityaja, S. J. Shigwan, and N. Kumar, "Unsegmedgat: Unsupervised medical image segmentation using graph attention networks clustering," in *2025 IEEE 22nd international symposium on biomedical imaging (ISBI)*, IEEE, 2025, pp. 1–4.

[CP4] S. Dubey, K. Mittal, S. K. Behera, M. Ravikiran, N. Kumar, S. Shigwan, and R. Saluja, "Multi-feature graph convolution network for hindi ocr verification," in *Proceedings of the 1st Workshop on Benchmarks, Harmonization, Annotation, and Standardization for Human-Centric AI in Indian Languages (BHASHA 2025)*, 2025, pp. 1–10.

[CP5] C. G. Kamra, I. D. Mastan, N. Kumar, and D. Gupta, "Simsam: Simple siamese representations based semantic affinity matrix for unsupervised image segmentation," in *2024 IEEE International Conference on Image Processing (ICIP)*, IEEE, 2024, pp. 1172–1178.

[CP6] K. S. G. Reddy, S. Bodduluri, A. M. Adityaja, S. Shigwan, N. Kumar, and S. Mukherjee, "Unsegarmanet: Unsupervised image segmentation using graph neural networks with convolutional arma filters," in *35th British Machine Vision Conference 2024, BMVC 2024, Glasgow, UK, November 25-28, 2024*, BMVA, 2024. [Online]. Available: https://papers.bmvc2024.org/0922.pdf.

[CP7] N. Kumar, S. Chandran, A. V. Rajwade, and S. P. Awate, "Semi-supervised robust one-class classification in rkhs for abnormality detection in medical images," in *2019 IEEE International Conference on Image Processing (ICIP)*, IEEE, 2019, pp. 544–548.

[CP8] N. Kumar, A. V. Rajwade, S. Chandran, and S. P. Awate, "Kernel generalized gaussian and robust statistical learning for abnormality detection in medical images," in *2017 IEEE International Conference on Image Processing (ICIP)*, IEEE, 2017, pp. 4157–4161.

[CP9] N. Kumar, A. V. Rajwade, S. Chandran, and S. P. Awate, "Kernel generalized-gaussian mixture model for robust abnormality detection," in *International Conference on Medical Image Computing and Computer-Assisted Intervention*, Springer, 2017, pp. 21–29.

[CP10] S. Banerjee, N. Kumar, and C. V. Madhavan, "Text simplification for enhanced readability.," in *KDIR/KMIS*, 2013, pp. 202–207.