



Dr. Nafis uddin Khan
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Personal Info Dr. Nafis uddin Khan did B.E. in Electronics and Telecommunication from Amravati University, Maharashtra in 2003 and M. Tech. in Software Systems from S. A. T. I. Vidisha under Rajiv Gandhi Technological University, Bhopal in 2008. He has pursued Ph.D. in “Anisotropic Diffusion Approaches for Adaptive Image Enhancement and De-noising” from ABV Indian Institute of Information Technology and Management, Gwalior in 2013. Since July 2013 to December 2016, he worked as Assistant Professor in the Department of Electronics and Communication Engineering in Jaypee University of Engineering and Technology, Guna (M.P.). He joined Jaypee University of Information Technology, Solan (H.P.) in January 2017 and working as Assistant Professor in the Department of ECE. His area of interest includes digital signal and image processing, adaptive image processing and fuzzy based applications in image processing. He has more than 5 years experience of teaching undergraduate and under post graduate level courses at different Engineering institutes. He has also held various academic and administrative responsibilities during his teaching and research career. He has published 24 research papers based on his Ph.D. work and outside Ph.D. work in various journals and conferences of national and international repute.

Educational Info B.E., M.Tech., Ph.D.

Research Interests Signal and Image Processing, Fuzzy based Applications in Image Processing, Signals and Systems Theory

Publications so far:

Journals:

1. Niveditta Thakur, **Nafis Uddin Khan** and Sunildatt Sharma, “A Review on Performance Analysis of PDS based Anisotropic Diffusion Approaches for Image

- Enhancement”, **Informatica: An International Journal of Computing and Informatics**, Volume 45(6), pp. 89 – 102, 2021. (**Indexed in ESCI and Scopus**) ISSN: 0350-5596
2. **Nafis uddin Khan** and K. V. Arya, “A New Fuzzy Rule based Pixel Organization Scheme for Optimal Edge Detection and Impulse Noise Removal”, **Multimedia Tools and Applications**, Volume 79, pp. 33811 – 33837 (**Indexed in SCIE and Scopus**) DOI: [10.1007/s11042-020-08707-x](https://doi.org/10.1007/s11042-020-08707-x), 2020, Impact Factor 2.101, SNIP 1.240, SJR 0.646, ISSN: 1380-7501.
 3. Veervrat Singh, Rajiv Tripathi, Rahul Pachauri and **Nafis uddin Khan**, “An Energy Efficient Routing Protocol based on New Variable Data Packet Algorithm for Wireless Sensor Networks”, **Recent Advances in Computer Science and Communications**, Volume 13, pp. 353 – 361 (**Indexed in Scopus**), DOI : [10.2174/2213275912666190204125259](https://doi.org/10.2174/2213275912666190204125259), 2019, Impact Factor 0.170, ISSN: 1874-4796.
 4. **Nafis uddin Khan** and K. V. Arya, “Two Stage Image De-noising and Edge Enhancement by SVD on Large Scale Heterogeneous Anisotropic Diffused Image Data” **Multimedia Tools and Applications**, Volume 77, pp. 22543 – 22566, DOI: [10.1007/s11042-018-6144-9](https://doi.org/10.1007/s11042-018-6144-9), 2018 (**Indexed in SCIE and Scopus**), Impact Factor 2.101, ISSN: 1380-7501
 5. **Nafis uddin Khan**, K. V. Arya and Manisha Pattanaik, “Edge Preservation of Impulse Noise Filtered Images by Improved Anisotropic Diffusion”, **Multimedia Tools and Applications**, Volume 73, pp. 573-597, DOI: [10.1007/s11042-013-1620-8](https://doi.org/10.1007/s11042-013-1620-8), 2014 (**Indexed in SCIE and Scopus**) Impact Factor 2.101, Citation Index 18, SNIP 1.240, SJR 0.646, ISSN: 1380-7501.
 6. **Nafis uddin Khan**, K. V. Arya and Manisha Pattanaik, “Histogram Statistics based Variance Controlled Adaptive Threshold in Anisotropic Diffusion for Low Contrast Image Enhancement”, **Signal Processing**, Volume 93, Issue 6, pp. 1684-1693, DOI: [10.1016/j.sigpro.2012.09.009](https://doi.org/10.1016/j.sigpro.2012.09.009), 2013 (**Indexed in SCIE and Scopus**) Impact Factor 4.384, Citation Index 22, SNIP 2.429, SJR 1.453, ISSN: 0165-1684.
 7. **Nafis uddin Khan**, K. V. Arya and Manisha Pattanaik, “A Robust PDE based Image De-noising Method”, **International Journal of Computer and Electrical Engineering**, Volume 4, No. 3, pp. 303-306, June 2012. (Indexed in EBSCO, ProQuest and Electronic Journals Digital Library) Citation Index 06, ISSN: 1793-8163. DOI: [10.7763/IJCEE.2012.V4.500](https://doi.org/10.7763/IJCEE.2012.V4.500).
 8. **Nafis uddin Khan**, K. V. Arya and Manisha Pattanaik, “A New Adaptive Thresholding in SVD for Efficient Image De-noising”, **Advances in Intelligent and Soft Computing**, 131, Vol. 2, pp. 615 – 626, 2011, (**Indexed in Scopus**), ISSN: 1867-5662, https://doi.org/10.1007/978-81-322-0491-6_60
 9. **Nafis uddin Khan**, K. V. Arya and Manisha Pattanaik, “Image Enhancement and De-noising by Diffusion based Singular Value Decomposition”, **International Journal of Computer Applications**, Volume 32, No. 8, pp. 14-22, October 2011. (Indexed in DOAJ and [ProQuest CSA Technology Research Database](https://www.proquest.com/technology-research-database)) Citation Index 04, ISSN: 0975-8887.

Conferences:

1. Aditya Mohan, Kushagra Srivastava, Garima Malhotra and **Nafis Uddin Khan**, “Plant Disease Detection using Clustering based Segmentation and Neural Networks” Accepted for presentation in **IEEE International Conference on Parallel, Distributed and Grid Computing (PDGC 2020)**, November 06 – 08, 2020, Jaypee University of Information Technology, Solan, India. ISSN: 2573-3079
2. **Nafis Uddin Khan**, Kriti Verma, Mehak Beakta and Pragati Srivastava, “A Non-intrusive Approach for Driver’s Drowsiness Detection”, Accepted for presentation in **IEEE International Conference on Parallel, Distributed and Grid Computing (PDGC 2020)**, November 06 – 08, 2020, Jaypee University of Information Technology, Solan, India. ISSN: 2573-3079
3. Niveditta Thakur, **Nafis uddin Khan** and Sunildatt Sharma, “A Comparative Analysis on Edge Preserving Approaches for Image Filtering”, Accepted for presentation in **Congress on Intelligent Systems (CIS 2020), World Conference in virtual format**, September 05-06, 2020. ISSN: 2194-5357
4. **Nafis uddin Khan**, Pallavi Sharma and Kanchan Rani, “Morphology based Character Recognition of Overlapped and Touched Objects”, Proceedings of **Fifth International Conference on Signal Processing and Communication (ICSC 2019)**, March 07 – 09, 2019, Jaypee Institute of Information Technology, Noida, India. (**Indexed in Scopus**) DOI: [10.1109/ICSC45622.2019.8938313](https://doi.org/10.1109/ICSC45622.2019.8938313)
5. Aditya Mohan and **Nafis uddin Khan**, “Dataset Expansion and Accelerated Computation for Image Classification: A Practical Approach”, Proceedings of **2018 International Conference on Applied Computing and Data Sciences (ICACDS 2018)**, April 20 – 21, 2018, Uttarakhand University, Dehradun, India. (**Indexed in Scopus**). https://doi.org/10.1007/978-981-13-1813-9_5
6. Veervrat Singh, Rajiv Tripathi and **Nafis uddin Khan**, “A Comprehensive Study on K-means Algorithms Initialization Techniques for Wireless Sensor Networks”, Proceedings of **2016 International Conference on Signal Processing and Communication (ICSC 2016)**, December 26 – 28, 2016, Jaypee Institute of Information Technology, Noida, India. Citation Index 02 (**Indexed in Scopus**). DOI: [10.1109/ICSPCom.2016.7980567](https://doi.org/10.1109/ICSPCom.2016.7980567)
7. Nimisha Jain, **Nafis uddin Khan** and K. V. Arya, “Local Variance based Anisotropic Diffusion for Efficient Edge Preserving Smoothing” Proceedings of **International Conference on Signal Processing (ICSP 2016)**, November 7 - 9, 2016, Samrat Ashok Technological Institute, Vidisha, India (**Indexed in Scopus**). DOI: [10.1049/cp.2016.1446](https://doi.org/10.1049/cp.2016.1446)
8. **Nafis uddin Khan**, K. V. Arya and Manisha Pattanaik, “Efficient Image De-noising and Edge Enhancement by Singular Value Decomposition on Anisotropic Diffused Image Data”, Proceedings of **Ninth IEEE International Conference on Industrial and Information Systems (ICIIS 2014)**, December, 15-17, 2014, ABV-Indian Institute of Information Technology and Management, Gwalior, India, Citation Index 02 (**Indexed in Scopus**). DOI: [10.1109/ICIINFS.2014.7036619](https://doi.org/10.1109/ICIINFS.2014.7036619)
9. **Nafis uddin Khan**, K. V. Arya and Manisha Pattanaik, “Fuzzy based Diffusion Coefficient Function in Anisotropic Diffusion for Impulse Noise Removal”, Proceedings of **8th Indian Conference on Vision Graphics and Image Processing (ICVGIP 2012)**, December, 16-19, 2012, Indian Institute of Technology, Bombay, India, Citation Index 03 (**Indexed in Scopus**). DOI: [10.1145/2425333.2425400](https://doi.org/10.1145/2425333.2425400)
10. **Nafis uddin Khan**, K. V. Arya and Manisha Pattanaik, “A New Adaptive Thresholding in SVD for Efficient Image De-noising”, Proceedings of **International Conference on Soft Computing for Problem Solving (SoCProS 2011)**, December

20-22, 2011, Indian Institute of Technology, Roorkee, India, Citation index 04 **(Indexed in Scopus)**. https://doi.org/10.1007/978-81-322-0491-6_60

11. **Nafis uddin Khan**, K. V. Arya and Manisha Pattanaik, “An Efficient Image Noise Removal and Enhancement Method”, Proceedings of **2010 IEEE International Conference on Systems, Man & Cybernetics (SMC 2010)**, October 10-13, 2010, Istanbul, Turkey, pp. 3735-3740, Citation Index 11 **(Indexed in Scopus)**. DOI: [10.1109/ICSMC.2010.5641838](https://doi.org/10.1109/ICSMC.2010.5641838), ISBN: 978-1-4244-6588-0
12. **Nafis uddin Khan**, “Analysis and Design of Image Processing Filters”, Proceedings of **AICTE sponsored two days National Conference on Emerging Trends in Engineering Systems, Design, Control and Analysis-2007**, March 15-16, 2007, Gyan Ganga Institute of Technology and Science, Jabalpur, India.

Book Chapters:

1. Munish Bhardwaj, **Nafis uddin Khan**, Vikas Baghel, Santosh Vishwakarma and Abul Basher, “Brain Tumor Segmentation using k-Means and Fuzzy C-Means Clustering” Accepted in **Digital Image Enhancement and Reconstruction**, Elsevier, 2022.
2. Niveditta Thakur, **Nafis uddin Khan** and Sunildatt Sharma, “A Comparative Analysis on Edge Preserving Approaches for Image Filtering”, **Intelligent Learning for Computer Vision**, Lecture Notes on Data Engineering and Communications Technologies, Vol. 61, pp. 441 – 453, 2020.
3. **Nafis uddin Khan**, K. V. Arya and Manisha Pattanaik, “A New Adaptive Thresholding in SVD for Efficient Image De-noising”, **Advances in Intelligent and Soft Computing**, 131, Vol. 2, pp. 615 – 626, 2011.

Book Editor:

1. Shyam Singh Rajput, **Nafis uddin Khan**, Amit Kumar Singh and K. V. Arya, **Digital Image Enhancement and Reconstruction**, Elsevier, 2022.(In Press)

Workshops/Conferences/Short Term Programs Organized:

1. Served as an **Invited Session Chair** in **Congress on Intelligent Systems (CIS 2020), World Conference in virtual format**, September 05-06, 2020
2. Served as **Organizing Committee Member and Reviewer** in **Congress on Intelligent Systems (CIS 2020), World Conference in virtual format**, September 05-06, 2020.
3. Organized as a Coordinator a **One Week Online Short Term Course** on “**Recent Advances in Computational Intelligence for Signal Processing**” (**RACISP – 2020**)

in Jaypee University of Information Technology, Solan (H.P.) 173234 from 10/08/2020 to 15/08/2020.

4. Organized as a Coordinator a **Five Days Short Term Course on “Recent Advances in Signal and Image Processing” (RASIP – 2019)** in Jaypee University of Information Technology, Solan (H.P.) 173234 from 24/06/2019 to 28/06/2019.
5. Served as **Organizing Committee Member in 5th IEEE International Conference on “Signal Processing, Computing and Control” (ICSPC 2019)** organized by Department of Electronics and Communication Engineering, Jaypee University of Information Technology, Solan (H.P.) 173234 from 10/10/2019 to 12/10/2019.
6. Served as an Invited Session Chair in **2019 IEEE International Conference on “Image Information Processing” (ICIIP 2019)** organized by Department of Computer Science and Engineering, Jaypee University of Information Technology, Solan (H.P.) 173234 from 15/11/2019 to 17/11/2019.
7. Served as **Organizing Committee Member in 4th IEEE International Conference on “Signal Processing, Computing and Control” (ICSPC 2017)** organized by Department of Electronics and Communication Engineering, Jaypee University of Information Technology, Solan (H.P.) 173234 from 21/09/2017 to 23/09/2017.
8. Served as an **Invited Session Chair in 7th IEEE International Conference on “Computational Intelligence and Communication Networks” (CICN 2015)** Gyan Ganga Institute of Technology and Science, Jabalpur (M.P.) - 482001 on 12/12/2015.
9. Served as a **National Advisory Committee Member in National Conference on Contemporary Computing** organized by Department of Computer Science and Information Technology, Chameli Devi Group of Institutions, Indore (M.P.) from 21/10/2016 to 22/10/2016.

Expert / Invited Lecture Delivered:

1. Lecture on **“Fuzzy Inference based Edge Detection and Image De-noising ” in One Week Online Short Term Course on “Recent Advances in Computational Intelligence for Signal Processing” (RACISP – 2020)** in Jaypee University of Information Technology, Solan (H.P.) 173234 from 10/08/2020 to 15/08/2020.
2. Lecture on **“Anisotropic Diffusion Approaches for Adaptive Image Enhancement” in One Week National Workshop on “Emerging Areas of Research in Image Processing” (ERIP - 2020)** in Jaypee University of Information Technology, Solan (H.P.) 173234 from 06/01/2020 to 12/01/2020.
3. Lecture on **“Anisotropic Diffusion Approaches in Image Processing” in Five Days Short Term Course on “Recent Advances in Signal and Image Processing” (RASIP – 2019)** in Jaypee University of Information Technology, Solan (H.P.) 173234 from 24/06/2019 to 28/06/2019.

Thesis Supervision:

1. **Thesis Title: Face and Iris Multimodal Biometric Based Human Recognition**

Name of the Student: Ayushi Agarwal

Degree: M.Tech (Completed)

Name of the Institution: Jaypee University of Engineering and Technology, Guna (M. P.)

Year of Passing: 2015.

- 2. Thesis Title: Image Enhancement and De-noising using Histogram Statistics in Anisotropic Diffusion**
Name of the Student: Nimisha Jain
Degree: M.Tech (Completed)
Name of the Institution: Jaypee University of Engineering and Technology, Guna (M. P.)
Year of Passing: 2016.
- 3. Thesis Title: Analysis of Components of Butler Matrix with Arbitrary Gains and Phase Shifts**
Name of the Student: Diksha Thakur
Degree: M.Tech (Completed)
Name of the Institution: Jaypee University of Information Technology, Solan (H. P.)
Year of Passing: 2018.
- 4. Thesis Title: Image Quality Assessment using Machine Learning Algorithms**
Name of the Student: Nivedita Thakur
Degree: PhD (Ongoing)
Name of the Institution: Jaypee University of Information Technology, Solan (H. P.)
Year of Registration: 2019.
- 5. Thesis Title: Brain Tumor Segmentation using k-Means and Fuzzy C-Means Clustering**
Name of the Student: Munish Bhardwaj
Degree: PhD (Ongoing)
Name of the Institution: Jaypee University of Information Technology, Solan (H. P.)
Year of Registration: 2021.