



## Aditya Acharya, Ph.D.

**Designation:** Associate Professor

**Department:** Department of Electronics and Communication Engg.

(JOINED THE INSTITUTE IN 2006)

**Contact** : 9437226026 (M)

**Email** : aditya@silicon.ac.in

### RESEARCH INTERESTS:

Image up-scaling and super-resolution, image enhancement under low light conditions, design and development of real-time night vision system, motion de-blurring, image restoration, image processing using machine learning, computer vision, video processing

### Academic Qualifications:

Ph. D. : NIT Rourkela, Odisha

Specialization : Image Processing

M. Tech. : KIIT University, Bhubaneswar, Odisha

Specialization: Communication System Engineering.

### Teaching Experience/Industrial Experience/Research Experience

Teaching Experience: 17 Years

Research Experience: 3 Years (PhD Scholar at NIT Rourkela, Odisha)

## PUBLICATIONS

### JOURNAL & CONFERENCES:

#### JOURNALS:

1. **A. Acharya** and S.Meher, "Iterative spatial domain 2-D signal decomposition for effectual image up-scaling," Multimedia Tools and Applications, **Springer (SCI Index)**, vol. 80, pp. 5577-5616, October 2020.
2. **A. Acharya** and S.Meher, "Efficient fuzzy composite predictive scheme for effectual 2-D up-sampling of images for multimedia applications," Journal of Visual Communication and Image Representation, **Elsevier (SCI Index)**, vol. 44, pp. 156-186, April 2017.

3. **A. Acharya** and S.Meher, "Composite High Frequency Predictive Scheme for Efficient 2-D Up-scaling Performance," Multimedia Tools and Applications, **Springer (SCI Index)**, vol. 77, pp. 2153-89, January 2017.
4. G. Sahoo and **A. Acharya**, "An Efficient Fusion based Up-sampling Technique for Restoration of Spatially Compressed Images," International Journal on Information Theory, vol. 4, pp. 1-9, January 2015.
5. **A. Acharya** and S.Meher, "Region adaptive unsharp masking based DCT interpolation for efficient video intra frame up-sampling." IJCA Special Issue on Electronic Design and Signal Processing ICEDSP(3):29-33, February 2013. Published by Foundation of Computer Science, New York, USA.

#### CONFERENCES:

1. **A. Acharya** and S.Meher, "Robust video denoising for better subjective evaluation," in proceeding of IEEE International Conference on Image and Information Processing (ICIIP-2011), Shimla, Nov. 2011.
2. **A. Acharya** and S.Meher, "An efficient, adaptive unsharp masking based interpolation for video intra frame up-sampling," in Proc. IEEE Asia Pacific Conference on Postgraduate Research in Microelectronics and Electronics, Dec. 2012.
3. **A. Acharya** and S.Meher, "Region adaptive unsharp masking based Lanczos3 interpolation for video intra frame up-sampling," in Proc. IEEE Int. Conf. on Sensing Technology, Dec. 2012.
4. **A. Acharya** and S.Meher, "Region adaptive unsharp masking based DCT interpolation for efficient video intra frame up-sampling," in Proc. Int. Conf. on Electronic Design and Signal Processing, Dec. 2012.
5. **A. Acharya** and S.Meher, "No reference fuzzy unsharp masking based DCT interpolation for better 2-D up-sampling," in Proc. IEEE International Conference on Fuzzy Systems, ISI Calcutta, Hyderabad, July 2013.
6. **A. Acharya** and S.Meher, "Region based Laplacian post-processing for better 2-D up-sampling," in Proc. Of annual IEEE International Conference INDICON, IIT Bombay, Dec. 2013.
7. **A. Acharya** and S.Meher, " Local adaptive Laplacian for better 2-D up-sampling," in Proc. 2<sup>nd</sup> International Symposium on Computer, Communication, Control and Automation (3CA 2013), Singapore, Dec. 2013.
8. **A. Acharya** and S. Meher, "Prediction Error based Sharpening Scheme for Efficient 2-D Up-sampling Performance," in Proc. IEEE International Conference on Electrical, Electronics, Signals, Communication and Optimization (EESCO), Vishakapatnam, Jan. 2015.

9. **A. Acharya** and S. Meher, "An Improved Image Super-resolution using Local Adaptive Unsharp Masking," in Proc. IEEE International Conference on Electrical, Electronics, Signals, Communication and Optimization (EESCO), Vishakapatnam, January 2015.
10. **A. Acharya** and S. Meher, " Error based Sharpening for Efficient 2-D Up-scaling Performance ," in Proc. Of annual IEEE International Conference INDICON, New Delhi, Dec. 2015.
11. **A. Acharya** and A VenkatGiri, " Contrast Improvement using Local Gamma Correction," in Proc. IEEE 6<sup>th</sup> International Conference on Advanced Computing and Communication Systems (ICACCS 2020), Coimbatore, March 2020.
12. A. Pattanayak and **A.Acharya**, " Local Gamma Correction using Bilinear Function for Dark Image Enhancement," in Proc. IEEE OITS-International Conference on Information Technology (OCIT 2021), SIT Bhubaneswar, December 2021.

#### BOOK CHAPTERS:

- [1] **A. Acharya** and S. Meher, "Region adaptive unsharp masking based Lanczos-3 interpolation for 2-D up-sampling: Crisp-rule versus fuzzy-rule based approach," Sensing Technology: Current Status and Future Trends II Smart Sensor, Measurement and Instrumentation, **Springer** International Publishing, vol. 8, pp. 47-73, 2014.