



## Dr. Annapurna Mishra, Ph.D.

**Designation :** Associate Professor

**Department :** Department of  
Electronics & Communication Engineering  
(JOINED THE INSTITUTE IN DEC 2010)

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### RESEARCH INTERESTS

- ✓ Biometric Image Processing and Machine Learning
- ✓ Fingerprint Image Analysis
- ✓ Feature extraction of Real-time fingerprint data,
- ✓ Classification of fingerprints into different classes using Machine Learning Approaches

### Academic Qualifications

- ✓ P h. D in Information and Communication Technology, F.M University, Balasore
- ✓ M. Tech in Electronics and Communication Engineering, BPUT, Odisha, India.
- ✓ B. Tech in Electronics and Tele-communication Engineering, BPUT, Odisha, India.  
Specialisation: Image Processing

### Teaching Experience/Industrial Experience/Research Experience

- ✓ Teaching Experience : 17 years
- ✓ Research Experience : 8 years

## PUBLICATIONS

### JOURNALS:

### JOURNAL& CONFERENCES

- [1] **A Mishra**, M Swain, B Dash," An approach to face recognition of 2-D Image using Eigen Faces and PCA, Signal and Image Processing, *An International Journal*, SIPIJ, Vol.3, Issue.2, 2012.
- [2] **A Mishra**, N Modi," Fingerprint Recognition using Local and Global Structures" *IJIREEICE*, March, 2016.

- [3] **A Mishra**, Abhishek Mishra, Madhusmita Panda ,," Fingerprint Classification and Matching using Self Organizing Feature Map", International Journal of Modern Engineering Research, April,2016.
- [4] A. Ray, N Mohapatra, S Das and **A. Mishra**," Iris Recognition Using Gabor Filter and SURF Feature Detection Technique", The IUP Journal of Information Technology, June 2018.
- [5] **A.Mishra** and S. Dehuri. "Real-time online fingerprint image classification using adaptive hybrid techniques." *International Journal of Electrical and Computer Engineering* 9, no. 5 (2019): 4372.
- [6] **A.Mishra** and S. Dehuri. "A Novel Hybrid FLANN-PSO Technique for real Time Fingerprint Classification." *Medico-Legal Update* 19, no. 2 (2019): 740-746.
- [7] **A.Mishra**, S. Dehuri and B.N Rath. "4-Class Classification of Fingerprint Images Using Biogeography Based Optimization Techniques." *IAEME Publications*
- [8] Simi Margarat, G., Hemalatha, G., **Mishra, A.**, Shaheen, H., Maheswari, K., Tamijeselman, S., Pavan Kumar, U., Banupriya, V. and Ferede, A.W., 2022. Early diagnosis of tuberculosis using deep learning approach for iot based healthcare applications. *Computational Intelligence and Neuroscience*, 2022(1), p.3357508.
- [9] Rao, V.S., Kasireddy, S., **Mishra, A.**, Salini, R., Godla, S.R. and Bedair, K., 2024. Unveiling Spoofing Attempts: A DCGAN-based Approach to Enhance Face Spoof Detection in Biometric Authentication. *International Journal of Advanced Computer Science & Applications*, 15(4).
- [10] Anuradha, D., Sekhar, G.C., **Mishra, A.**, Thapar, P., Baker El-Ebiary, Y.A. and Syamala, M., 2024. Efficient Compression for Remote Sensing: Multispectral Transform and Deep Recurrent Neural Networks for Lossless Hyper-Spectral Image. *International Journal of Advanced Computer Science & Applications*, 15(2).

## ANY OTHER

### CONFERENCES:

- [1]. S.Rajguru, S.Satpathy, **A. Mishra**, "Fingerprint Matching Using Alignment Match Algorithm", ICIT students Symposium, 2014.
- [2]. **A Mishra**, N Modi, "Biometric Identification (Analysis based on Fingerprints and faces)", International Conference on Advanced Computing and Intelligent Engineering ICACIE-2016, Springer, Dec, 2016.
- [3]. **A Mishra**, S Dehuri, "Fingerprint feature extraction and classification: An analysis based on Filterbanks & Neural network", National conference on Machine learning & Data science in Internet of Things, March, 2017.
- [4]. **A Mishra**, S Dehuri, "An Experimental Study of Filter Bank Approach and Biogeography Based Optimized ANN in Fingerprint Classification", 3rd International Conference on Nanoelectronics, Circuits & Communication Systems (NCCS-2017), Nov, 2017.
- [5]. **A Mishra**, S Dehuri, "Fingerprint Classification by filter bank approach using evolutionary ANN", International Conference on Cognitive Informatics & Soft Computing (CISC-2017), Dec, 2017.
- [6]. A. Ray, N Mohapatra, S Das and **A. Mishra**, "Iris Recognition Using Gabor Filter and SURF Feature Detection Technique", ICIT students Symposium, 2017.
- [7]. **A.Mishra**, S. Dehuri, "Fingerprint Classification by Filter Bank Approach using Biogeography based Optimized Functional Link ANN" International Conference on Applied Electromagnetics, Signal Processing and Communication (AESPC-2018), October 2018.

- [8]. **A.Mishra**, S. Dehuri. and P.K. Mallick. "Classification of Real Time Noisy Fingerprint Images Using FLANN." In *International Conference on Biologically Inspired Techniques in Many-Criteria Decision Making*, pp. 62-68. Springer, Cham, 2019.
- [9]. Chauhan, R., Bandopadhyaya, S., Dev, M., Mishra, A., Giri, L.I., Kharel, B. and Samal, S.R., 2021, December. "Design of Robotic Snake with ESP 32 CAM and Arduino In *2021 19th OITS International Conference on Information Technology (OCIT)* (pp. 6-9). IEEE.
- [10]. Samal, S.R., Bandopadhyaya, S., Roy, A., Mishra, A., Mihovska, A. and Poulkov, V., 2023, November. "MQTT Protocol Based IoT Solution for Voice-Controlled Smart Home. In *2023 26th International Symposium on Wireless Personal Multimedia Communications (WPMC)* (pp. 171-175). IEEE.
- [11]. Mishra, A., Singh, N., Samal, S.R. and Dash, S., 2023, September. Biogeography Based Optimized Hybrid Chebyshev FLANN for Fingerprint Classification. In *2023 1st International Conference on Circuits, Power and Intelligent Systems (CCPIS)* (pp. 1-4). IEEE.
- [12]. Mishra, A., Dehuri, S. and Mallick, P.K., 2022. Feature Extraction and Feature Sheet Preparation of Real-Time Fingerprints for Classification Application. In *Electronic Systems and Intelligent Computing: Proceedings of ESIC 2021* (pp. 71-83). Singapore: Springer Nature Singapore.

#### BOOK CHAPTER

- 1. G K Kanungo, N Singh, J Dash and **A Mishra**, "Mammogram Image Segmentation Using Hybridization Of Fuzzy Clustering And Optimization Algorithms", Springer Book series on Advances in Intelligence System and Computing, 2014.
- 2. **A. Mishra** and S. Dehuri. and P.K. Mallick. "Fingerprint Classification by Filter Bank Approach Using Evolutionary ANN" *Cognitive Informatics and Soft Computing*, Springer
- 3. **A. Mishra** and S. Dehuri. "An experimental study of filter bank approach & Biogeography based optimized ANN in fingerprint classification", Lect. Notes Electrical Eng, Springer Nature.

#### PATENTS:

- 1.       Application Number: 202141026736A  
           Title of Invention: "Smart management of food storage and waste reduction using blockchain technology".  
           Publication Date (U/S 11A): 20/08/2021
  
- 2.       Application Number: 202111028655  
           Title of Invention: "Controlling of Electrical System using Photonic Filters".  
           Publication Date : 25/06/2021