

: FACULTY DETAILED RESEARCH DATA:

Name of the Faculty: Dr. Pabitra Pal

Designation: Associate Professor

Department: Computer Science and Engineering

School: Computer Science

Research Area: Multimedia Security, Digital Watermarking, Steganography, Data Hiding, Image Processing, IoT.

Details of research portfolio of faculty: A.

Researcher's ID details:

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B. Publication details:

1. Conference proceedings/ Conference paper:

Sl. No.	Name of the Conference	Title of the paper	Month & Year of Publication	Author(s) Name	National/ International	doi number (if any)	ISSN/ ISBN no.
1	12th International Conference on Mathematics and Computing (ICMC 2026), LNMIIT, Jaipur	VeriFace: A CNN-Driven Framework for Detecting Deepfake Images in Digital Media	January 2026	Sandipan Pal, Pabitra Pal, Sayani Mondal, Partha Chowdhuri, Soamdeep Singha	International	-	-
2	Sixth International Symposium on Signal and Image Processing (ISSIP 2025), RIT Global, Albania	Sanskrit Bytes: Capturing the Essence of Sanskrit in English	November 2025	Saroj Kumar Manna, Pabitra Pal, Sayani Mondal, Debasis Giri	International	-	-
3	Fourth International Conference on Computational	A Secure Image Watermarking Technique using Chinese	January 2022	Santa Singh, Partha Chowdhuri, Pabitra Pal,	International	-	-

	Intelligence in Communications and Business Analytics (CICBA 2022), Assam University, Silchar	Remainder Theorem in Integer Wavelet Transformation Domain		Prabhas Kumar Singh, Biswapati Jana			
4	Fourth International Conference on Computational Intelligence in Communications and Business Analytics (CICBA 2022), Assam University, Silchar	An IWT based Reversible Watermarking Scheme using Lagrange Interpolation Polynomial	January 2022	Ashis Dey, Pabitra Pal, Partha Chowdhuri, Prabhas Kumar Singh, Biswapati Jana	International	-	-
5	International Conference on Computational Intelligence in Pattern Recognition (CIPR 2020), IEM, Kolkata	Center-Symmetric Local Binary Pattern-Based Image Authentication Using Local and Global Features Vector	January 2020	Ashis Dey, Pabitra Pal, Partha Chowdhuri, Prabhas Kumar Singh, Biswapati Jana	International	-	-
6	International Conference on Information Technology and Applied Mathematics (ICITAM 2017), Haldia Institute of Technology	A New Dual Image-Based Steganographic Scheme for Authentication and Tampered Detection	October 2017	Partha Chowdhuri, Pabitra Pal, Biswapati Jana	International	-	-
7	International Conference on Communication, Devices, and Computing (ICDC 2017), Haldia Institute of Technology	Hamming Code-Based Watermarking Scheme for Image Authentication and Tampered Detection	November 2017	Pabitra Pal, Partha Chowdhuri, Biswapati Jana, Jaydeb Bhaumik	International	-	-
8	International Conference on	Reversible watermarking	March 2017	Pabitra Pal, Partha	International	-	-

	Computational Intelligence, Communications, and Business Analytics (CICBA 2017), Calcutta Business School	scheme using PVD-DE		Chowdhuri, Biswapati Jana			
9	National Seminar on Emerging Trends in Mathematics, Vidyasagar University	Parity Based Image Steganography Using Cellular Automata	December 2012	Biswapati Jana, Debasis Giri, Shyamal Kumar Mondal, Pabitra Pal	National	-	-
10	National Conference on Advanced Communication Systems and Design Techniques (NCACD 2011), Haldia Institute of Technology	Cellular Automata For Image Noise Reduction Using Neighbor Pixel	November 2011	Biswapati Jana, Pabitra Pal, Jaydeb Bhaumik	National	-	-

2. Publications in SCI/Scopus indexed Journals:

Sl. No	Name of the Journal (mention SCI/scopus)	Title of the paper	Month & Year of Publication	Author(s) Name (Highlight the corresponding and 1 st author in every article)	doi number	Issue No. & Volume No.	Page no.	ISSN of the journal
1	Evolutionary Intelligence, Springer (SCI, Q2, IF: 2.6)	Deep learning based hyperspectral band selection using position-sensitive axial attention mechanism	January 2026	Anish Sarkar, Utpal Nandi, Santanu Koley, Chiranjit Changdar, Bachchu Paul, Partha Chowdhuri, Pabitra Pal	https://doi.org/10.1007/s12065-025-01135-6	Vol. 19, Issue 17	-	1864-5909 (Print), 1864-5917 (Online)
2	Pattern Analysis and	Tsi-cnn-net: truly shift-invariant	February 2025	Anudyuti Ghora, Utpal	https://doi.org/	Vol. 28,	pp 52	1433-7541

	Applications, Springer (SCI, Q2, IF: 3.7)	convolutional neural network for Indian sign language recognition system		Nandi, Moirangthem Marjit Singh, Chiranjit Changdar, Bachchu Paul, Partha Chowdhuri, Pabitra Pal	10.1007/s10044-025-01428-7	Issue 2		(Print), 1433-755X (Online)
3	Journal of Visual Communication and Image Representation, Elsevier (SCI, Q1, IF: 2.6)	A robust watermarking approach for medical image authentication using dual image and quorum function	October 2024	Ashis Dey, Partha Chowdhuri, Pabitra Pal, Utpal Nandi	https://doi.org/10.1016/j.jvcir.2024.104299	Vol. 104	pp 104299	1047-3203 (Print), 1095-9076 (Online)
4	Journal of Electronic Imaging, SPIE Digital Library (SCI, Q3, IF: 1.0)	High-fidelity reversible data-hiding technique in encrypted images using pixel value ordering and center folding strategy	October 2024	Shweta Midya, Partha Chowdhuri, Pabitra Pal	https://doi.org/10.1117/1.JEI.33.5.053025	Vol. 33, Issue 5	pp 053025	1017-9909 (Print), 1560-229X (Online)
5	Evolutionary Intelligence, Springer (SCI, Q2, IF: 2.3)	sqFm: a novel adaptive optimization scheme for deep learning model	January 2024	Shubhankar Bhakta, Utpal Nandi, Madhab Mondal, Kuheli Ray Mahapatra, Partha Chowdhuri, Pabitra Pal	https://doi.org/10.1007/s12065-023-00897-1	Vol. 17, Issue 04	pp 2479-2494	1864-5909 (Print), 1864-5917 (Online)
6	Multimedia Tools and Applications, Springer (SCI, Q1, IF: 3.6)	Integer wavelet transform based watermarking scheme for medical image authentication	February 2024	Ashis Dey, Partha Chowdhuri, Pabitra Pal	https://doi.org/10.1007/s11042-024-18183-2	Vol. 83	pp 78001-78022	1380-7501 (Print), 1573-7721 (Online)
7	Multimedia Tools and Applications, Springer (SCI, Q1, IF: 3.6)	A novel watermarking scheme for medical image using support vector machine and lifting wavelet transform	January 2023	Pabitra Pal , Partha Chowdhuri, Tapas Si	https://doi.org/10.1007/s11042-023-15144-z	Vol. 82, Issue 26	pp 41187-41206	1380-7501 (Print), 1573-7721 (Online)

8	Multimedia Tools and Applications, Springer (SCI, Q1, IF: 3.6)	A novel steganographic technique for medical image using SVM and IWT	January 2023	Partha Chowdhuri, Pabitra Pal , Tapas Si	https://doi.org/10.1007/s11042-022-14301-0	Vol. 82, Issue 13	pp 20497-20516	1380-7501 (Print), 1573-7721 (Online)
9	Wireless Personal Communications, Springer (SCI, Q2, IF: 1.671)	An Image Authentication and Tampered Detection Scheme Exploiting Local Binary Pattern along with Hamming Error Correcting Code	June 2021	Pabitra Pal , Biswapati Jana, Jaydeb Bhaumik	https://doi.org/10.1007/s11277-021-08666-y	Vol. 121, Issue 1	pp 939-961	0929-6212
10	Multimedia Tools and Applications, Springer (SCI, Q1, IF: 2.757)	A secure reversible color image watermarking scheme based on LBP, lagrange interpolation polynomial and weighted matrix	March 2021	Pabitra Pal , Biswapati Jana, Jaydeb Bhaumik	https://doi.org/10.1007/s11042-021-10651-3	Vol. 80, Issue 14	pp 21651-21678	1380-7501 (Print), 1573-7721 (Online)
11	IET Image Processing, IEEE (SCI, Q2, IF: 2.004)	Robust Watermarking Scheme For Tamper Detection And Authentication Exploiting Cellular Automata	October 2019	Pabitra Pal , Biswapati Jana, Jaydeb Bhaumik	10.1049/iet-ipr.2018.6638	Vol. 13, Issue 12	pp 2116-2129	1751-9659 (Print), 1751-9667 (Online)
12	International Journal of Security and Privacy, Wiley Online Library (Q3)	Watermarking Scheme Using Local Binary Pattern For Image Authentication And Tamper Detection Through Dual Image	March/ April 2019	Pabitra Pal , Biswapati Jana, Jaydeb Bhaumik	https://doi.org/10.1002/spy2.59	Vol. 2, Issue 2	e59	2475-6725 (Online)
13	Multimedia Tools and Applications, Springer (SCI, Q1, IF: 2.313)	Weighted Matrix Based Reversible Watermarking Scheme Using Color Image	September 2018	Pabitra Pal , Partha Chowdhuri, Biswapati Jana	https://doi.org/10.1007/s11042-017-5568-y	Vol. 77, Issue 18	pp 23073-23098	1380-7501 (Print), 1573-7721 (Online)
14	International Journal of Computers and	Improved Data Hiding Capacity Through Repeated Embedding Using	February 2018	Partha Chowdhuri, Pabitra Pal, Biswapati Jana	https://doi.org/10.1080/1206212X.20	Vol. 41, Issue 3	pp 218-232	1206-212X (Print), 1925-

	Applications (IJCA), Taylor and Francis (Scopus, Q2)	Modified Weighted Matrix For Color Image			17.1422587			7074 (Online)
15	International Journal of Pure and Applied Mathematics (Scopus, Q4)	Image Steganography Based On Cellular Automata	2013	Biswapati Jana, Debasis Giri, Shymal Kumar Mondal, Pabitra Pal	http://dx.doi.org/10.12732/ijpam.v83i5.14	Vol. 83, No. 5	pp 701-715	1311-8080 (Print), 1314-3395 (Online)
16	International Journal of Soft Computing and Engineering (IJSCE)	New Image Noise Reduction Schemes Based On Cellular Automata	May 2012	Biswapati Jana, Pabitra Pal , Jaydeb Bhaumik	-	Vol. 2, Issue 2	pp 98-103-	2231-2307 (Online)

3. Book chapter:

Sl. No.	Title of the book	Publishers	Author(s) Name (Highlight the corresponding and 1 st author in every article)	Year	ISBN No.	doi no. (if applicable)
1	Proceedings of Second International Symposium on Artificial Intelligence (ISAI 2025) Chapter: KEIIFFC: Keyframe Extraction from Historical Videos Using Intra and Inter-frame Features-Based on Clustering	Springer, Singapore	Sukhendu Bikash Giri, Partha Chowdhuri, Pabitra Pal , Utpal Nandi	2026	978-981-96-9238-5	https://doi.org/10.1007/978-981-96-9239-2_35
2	Proceedings of Second International Symposium on Artificial Intelligence (ISAI 2025) Chapter: Enhancing Flood Prediction Accuracy Through LSTM-CNN Fusion Model with Satellite Imagery and Weather Data	Springer, Singapore	Amit Ruidas, Harshit Kumar Sahu, Asim Kumar Mahadani & Pabitra Pal	2026	978-981-96-9238-5	https://doi.org/10.1007/978-981-96-9239-2_26
3	Proceedings of International Conference on Network Security and Blockchain Technology (ICNSBT 2025)	Springer Singapore	Debolina Bhattacharya, Pabitra Pal , Asim Kumar Mahadani,	2025	978-981-96-6347-7	https://doi.org/10.1007/978-981-96-6348-4_4

	Chapter: LBP-Based Robust Medical Image Watermarking in Wavelet Domain		Partha Chowdhuri, Debasis Giri			
4	Proceedings of International Conference on Network Security and Blockchain Technology (ICNSBT 2025) Chapter: An Image Watermarking Approach Using Hybrid GWO-GA in IWT Domain	Springer Singapore	Santa Singh, Partha Chowdhuri, Pabitra Pal , Biswapati Jana	2025	978-981-96-6347-7	https://doi.org/10.1007/978-981-96-6348-4_9
5	Proceedings of International Conference on Network Security and Blockchain Technology (ICNSBT 2024) Chapter: Spread-Spectrum Based a New Secured Robust Image Watermarking Scheme	Springer Cham	Supriyo De, Soumalya Maity, Jaydeb Bhaumik, Pabitra Pal, Debasis Giri	2025	978-981-97-8050-1	https://doi.org/10.1007/978-981-97-8051-8_7
6	Stabilization, Safety, and Security of Distributed Systems (SSS 2024) Chapter: SUPI-Rear: Privacy-Preserving Subscription Permanent Identification Strategy in 5G-AKA	Springer Cham	K. Sowjanya, Pabitra Pal, Aman Verma, Bijoy Das, Dhiman Saha, Anand M. Baswade, Brejesh Lall	2024	978-3-031-74497-6	https://doi.org/10.1007/978-3-031-74498-3_22
7	Proceedings of International Conference on Network Security and Blockchain Technology (ICNSBT 2024) Chapter: LWT-Based Watermarking Scheme for Image Authentication	Springer Cham	Sachchidananda Jana, Pabitra Pal , Asim Kumar Mahadani, Partha Chowdhuri, Debasis Giri	2025	978-981-97-8050-1	https://doi.org/10.1007/978-981-97-8051-8_5
8	Proceedings of Third International Conference on Advanced Computing and Applications (ICACA 2024) Chapter: A Hybrid Watermarking Scheme Using DWT and Haar Transform for Image Authentication	Springer Cham	Sachchidananda Jana, Pabitra Pal , Asim Kumar Mahadani, Debasis Giri	2024	978-981-97-8050-1	https://doi.org/10.1007/978-981-97-4799-3_22
9	Frontiers of ICT in Healthcare: Proceedings of EAIT 2022 Chapter: RIWT Generative Feedback Residual Network for Secure Clinical Data Communication	Springer Singapore	Prabhash Kumar Singh, Biswapati Jana, Kakali Datta, Partha Chowdhuri, Pabitra Pal	2023	978-981-19-5190-9	https://doi.org/10.1007/978-981-19-5191-6_25
10	Proceedings of International Conference on Frontiers in Computing and Systems	Springer Singapore	Prabhash Kumar Singh, Biswapati	2022	978-981-19-	https://doi.org/10.1007/978-

	(COMSYS 2021) Chapter: Fuzzy Logic with Superpixel-Based Block Similarity Measures for Secured Data Hiding Scheme		Jana, Kakali Datta, Prasenjit Mura, Partha Chowdhuri, Pabitra Pal		0104-1	981-19-0105-8_44
11	Computational Intelligence in Communications and Business Analytics. CICBA 2022 Chapter: An IWT Based Reversible Watermarking Scheme Using Lagrange Interpolation Polynomial	Springer Singapore	Ashis Dey, Pabitra Pal , Partha Chowdhuri, Prabhas Kumar Singh, Biswapati Jana	2022	978-3-031-10765-8	https://doi.org/10.1007/978-3-031-10766-5_8
12	Advanced Techniques for IoT Applications. EAIT 2021 Chapter: Dual Image Based Watermarking Scheme Using Quorum Function	Springer Singapore	Ashis Dey, Pabitra Pal , Partha Chowdhuri, Biswapati Jana, Sharmistha Jana, Amlan Singha	2021	978-981-16-4434-4	https://doi.org/10.1007/978-981-16-4435-1_13
13	Intelligent Computing: Image Processing Based Applications. Advances in Intelligent Systems and Computing Chapter: A New Repeated Pixel Value Difference-Based Steganographic Scheme with Overlapped Pixel	Springer Singapore	Partha Chowdhuri, Pabitra Pal , Biswapati Jana, Debasis Giri	2020	978-981-15-4287-9	https://doi.org/10.1007/978-981-15-4288-6_7
14	Computational Intelligence in Pattern Recognition. Advances in Intelligent Systems and Computing Chapter: Center-Symmetric Local Binary Pattern-Based Image Authentication Using Local and Global Features Vector	Springer Singapore	Ashis Dey, Pabitra Pal , Partha Chowdhuri, Prabhas Kumar Singh, Biswapati Jana	2020	978-981-15-2448-6	https://doi.org/10.1007/978-981-15-2449-3_41
15	Information Technology and Applied Mathematics. Advances in Intelligent Systems and Computing Chapter: A New Dual Image-Based Steganographic Scheme for Authentication and Tampered Detection Using (7, 4) Hamming Code	Springer Singapore	Partha Chowdhuri, Pabitra Pal , Biswapati Jana	2018	978-981-10-7589-6	https://doi.org/10.1007/978-981-10-7590-2_12
16	Communication, Devices, and Computing. (ICCDC 2017) Chapter: Hamming Code-Based Watermarking Scheme for Image	Springer Singapore	Pabitra Pal , Partha Chowdhuri, Biswapati Jana, Jaydeb Bhaumik	2018	978-981-10-8584-0	https://doi.org/10.1007/978-981-10-8585-7_6

1	Artificial Intelligence (AI) Based Cloud Security Detecting Device	Vidyasagar University	Dr. Biswapati Jana, Dr. Partha Chowdhuri, Dr. Prabhash Kumar Singh, Dr. Pabitra Pal, Dr. Soamdeep Singha, Sabari Pramanik, Payel Guria, Mr. Debkumar Bera	07-November-2025	-	No; Patent Pending	479472-001
2	Method and System to Protect Clear Text Transmission of User Identity in Wireless Networks	IIT Delhi	Brejesh Lall, Dhiman Saha, Anand Madhavrao Baswade, Pabitra Pal, Aman Varma	18-December-2023	04-July-2024	No; Pending (US)	US20240224046A1
3	Method and System to Protect Clear Text Transmission of User Identity in Wireless Networks	IIT Delhi	Brejesh Lall, Dhiman Saha, Anand Madhavrao Baswade, Pabitra Pal, Aman Varma	29-December-2022	-	Yes; 10-November-2025 (India)	202211076776 / Patent No. 573472