BIO-DATA

1. Name and full correspondence address:

    Dr. Arup Kumar Pal
    Associate Professor
    Department of Computer Science and Engineering
    Indian Institute of Technology (ISM) Dhanbad
    Jharkhand-826004, India

2. Email(s) and contact number(s): **arupkrpal@iitism.ac.in, arupkrpal@gmail.com**
    91-9471191835 (P), 0326-2235796 (O)

3. Institution: **Indian Institute of Technology (ISM), Dhanbad**

4. Date of Birth: **05th October, 1985**

5. Gender: **Male**

6. Category: **General**

7. Whether differently abled (Yes/No): **No**

8. Academic Qualification

Sl. No.	Degree	Year	Subject	University/Institution
i.	Ph.D	2011	Computer Science and Engineering	Indian Institute of Technology (ISM) Dhanbad, Jharkhand
ii.	B.Tech	2006	Computer Science and Engineering	Government College of Engineering and Textile Technology, Berhampore, West Bengal
iii.	12th	2002	Pure Science	Bolpur N.N.B. High School,Birbhum, West Bengal
iv.	10th	2000	--	Bolpur N.N.B. High School,Birbhum, West Bengal

9. Ph.D thesis title, Guide Name, Institute/Organization/University:
    Thesis: **Studies on Compression, Vector Quantization and Security of Images**
    Institute: **Indian Institute of Technology (ISM) Dhanbad**
    Year of Award: **August 2011**

10. Details of employments:

Sl. No.	Position Held	Name of the Institute	From	To
i.	Associate Professor	Indian Institute of Technology (Indian School of Mines) Dhanbad	12.04.2021	Till Date
ii.	Assistant Professor	Indian Institute of Technology (Indian School of Mines) Dhanbad	27.12. 2011	11.04.2021
iii.	Lecturer	National Institute of Technology, Jamshedpur	20.04.2011	26.12.2011

11. Administrative work experience:

S. N.	Position Held	From	To
i.	Departmental Faculty Screening Committee (DFSC) of the Dept. of CSE for Assistant Professor position	01.12.2021	Till Date
ii.	DUGC Convener	25.01.2024	Till Date
iii.	Associate Dean (Automation)	22.06.2021	20.10.2023

12. Research Interests: Cryptography, Multimedia Security, Blockchain, Image Processing and CBIR.

13. Professional Recognition/ Award/ Prize/ Certificate, Fellowship received by the applicant
Received Best Paper Award: Pramod Kumar, Arup Kumar Pal and SK Hafizul Islam "LASKV: Lightweight Authenticated Session Key Agreement for Video Surveillance System", *Fifth International Symposium on Signal and Image Processing (ISSIP 2024)* held at Rochester Institute of Technology Kosovo (A.U.K), Kosovo, Europe, March 25-26, 2024.
Received Best Paper Award: Mahesh Chaurasia, and Arup Kumar Pal, "A Blockchain-based Secure Fragile Watermarking Scheme for Image Tamper Detection", *International Conference on Sustainable Development & Management Practices (ICSDMP-2024)*, held at IIT(ISM) Dhanbad, India, 09-10 February 2024.
Excellent Paper Award: Shukla Mondal, Arup Kumar Pal, SK Hafizul Islam and Debabrata Samanta, "Objectionable Image Content Classification Using CNN-Based Semi-supervised Learning", *5th International Conference on Smart Vehicular Technology, Transportation, Communication and Applications (VTCA-2022)*, December 24-26, 2022, Virtual Conference
Received Best Paper Award: Srilekha Paul, and Arup Kumar Pal, "Active Forgery Detection in Grayscale Images using CRC-8 based Fragile Watermarking", *1st International Conference on Machine Learning, Image Processing, Network Security and Data Sciences (MIND-2019)*, held at NIT Kurukshetra, India, 3-4 March 2019.

14. Research Projects

Sl. No	Project Title	Funding Agency	Cost in Lakh	Date of sanction and Duration	Role as PI/Co- PI
i.	Information Security Education and Awareness (ISEA) Project Phase-III (Project No: MeitY/2024-2025/1106/CSE)	MeitY	201.6	18.04.2024 (05 years)	Co-PI
ii.	Cloud based Smart Video Surveillance System with Application Layer Cyber Physical Systems Security (Project No: C3iHUB/2021-2022/820/CSE)	C3iHUB IIT Kanpur	31.28	07.10.2021 (3 Years)	Sole PI
iii.	Development of Content-Based Image Filtering Approach to Prevent Objectionable Image Retrieval from The Internet (Project No: CSIR(34)/2020-2021/754/CSE)	CSIR	18.60	01.11.2020 (3 Years)	Sole PI
iv.	FIST- 2018 (Project No: DST-FIST(208)/2018-2019/606/CSE)	DST	52.00	08 June 2018 (05 years)	Co-PI
v.	Information Security Education and Awareness (ISEA) Phase-II (Project No: MCIT(3)/2015-16/419/CSE)	MeitY	148.10	30 June 2015 (05 years)	Co-PI

15. Publications (List of Selected papers Published/Accepted in SCI/SCIE Journals)

Sl No.	Author(s)	Title	Name of Journal	Vol.	Page	Year
1.	Soumya Mukherjee, **Arup Kumar Pal**, and Soham Maji	A copy-move forgery detection technique using DBSCAN-based keypoint similarity matching	International Journal of Machine Learning and Cybernetics	--	--	2024
2.	Shukla Mondal, Arup Kumap Pal, and **SK Hafizul Islam**	CBIF-M: A content-based image filtering and retrieval scheme using multi-classifier filtering framework	Computers and Electrical Engineering	--	--	2024
3.	Pramod Kumar, **Arup Kumar Pal**, and SK Hafizul Islam	2F-MASK-VSS: Two-factor mutual authentication and session key agreement scheme for video surveillance system	Journal of Systems Architecture (Elsevier)	153	1-24	2024
4.	Soumya Mukherjee, **Arup Kumar Pal**	A hybrid SWT-SVD based multiresolution features for robust image copy-move forgery detection	Multimedia Tools and Applications (Springer)	83	48141–48163	2024
5.	Manish Raj, Arshad Ayub, **Arup Kumar Pal**, et al.	Diagnostic Accuracy of Artificial Intelligence-Based Algorithms in Automated Detection of Neck of Femur Fracture on a Plain Radiograph: A Systematic Review and Meta-analysis	Indian Journal of Orthopaedics (Springer)	58	457–469	2024
6.	Preeti Soni, SK Hafizul Islam, **Arup Kumar Pal,** Nimish Mishra, Debabrata Samanta	Blockchain-based User Authentication and Data-sharing Framework for Healthcare Industries	IEEE Transactions on Network Science and Engineering	11(4)	3623-3638	2024
7.	Kuntal Chowdhury, Debasis Chaudhuri, **Arup Kumar Pal**	A faster SVM classification technique for remote sensing images using reduced training samples	Journal of Ambient Intelligence and Humanized Computing (Springer)	14	16807-16827	2023
8.	Manish Raj, Amiy Arnav, **Arup Kumar Pal**, Shukla Mondal	Global Research Trends in Limb Salvage Surgery for Osteosarcoma: Findings from a Bibliometric and Visualized Analysis over 15 Years	Indian Journal of Orthopaedics (Springer)	57	1927-1948	2023
9.	Jitesh Pradhan, **Arup Kumar Pal**, SK Hafizul Islam, Chiranjeev Bhaya	DNA Encoding-based Nucleotide Pattern and Deep Features for Instance and Class-based Image Retrieval	IEEE Transactions on Nano Bioscience	--	--	2023
10.	Shiv Prasad, Soumya Mukherjee, **Arup Kumar Pal**	An RGB Color Image Steganography Scheme by Binary Lower Triangular Matrix	IEEE Transactions on Intelligent Transportation Systems	24 (7)	6865-6873	2023
11.	Pooja Mishra, Chiranjeev Bhaya, **Arup Kumar Pal**, Abhay Kumar Singh	A medical image cryptosystem using bit-level diffusion with DNA coding	Journal of Ambient Intelligence and Humanized Computing (Springer)	14(3)	1731-1752	2023

12.	Sumit Kumar, Arup Kumar Pal, SK Hafizul Islam, Mohammad Hammoudeh	Secure and efficient image retrieval through invariant features selection in insecure cloud environments	Neural Computing and Applications (Springer)	35 (7)	4855-4880	2023
13.	PreetiSoni, Jitesh Pradhan, **Arup Kumar Pal**, Sk Hafizul Islam	Cybersecurity Attack-resilience Authentication Mechanism for Intelligent Healthcare System	IEEE Transactions on Industrial Informatics	19(1)	830-840	2023
14.	Jitesh Pradhan, ChiranjeevBhaya, **Arup Kumar Pal**, Arpit Dhuriya	Content-Based Image Retrieval using DNA Transcription and Translation	IEEE Transactions on NanoBioscience	22(1)	128-142	2023
15.	Srilekha Paul and**Arup Kumar Pal**	A fast copy-move image forgery detection approach on a reduced search space	Multimedia Tools and Applications(Springer)	82	25917-25944	2023
16.	Shubham Kumar, Soumya Mukherjee, **Arup Kumar Pal**	An improved reduced feature-based copy-move forgery detection technique	Multimedia Tools and Applications(Springer)	82	1431–1456	2023
17.	Mukul Majhi, **Arup Kumar Pal,** Jitesh Pradhan, SK Hafizul Islam, M. K. Khan	Computational intelligence based secure three-party CBIR scheme for medical data for cloud-assisted healthcare applications	Multimedia Tools and Applications (Springer)	81	41545-41577	2022
18.	Shiv Prasad, **Arup Kumar Pal**, Srilekha Paul	A Block-Level Image Tamper Detection Scheme Using Modulus Function Based Fragile Watermarking	Wireless Personal Communications(Springer)	125	2581–2619	2022
19.	Jitesh Pradhan, **Arup Kumar Pal**, Haider Banka	A CBIR system based on saliency driven local image features and multi orientation texture features	Journal of Visual Communication and Image Representation (Elsevier)	83	1-18	2022
20.	Sumit Kumar, Jitesh Pradhan, **Arup Kumar Pal**, SK Hafizul Islam, M. K. Khan	Radiological image retrieval technique using multi-resolution texture and shape features	Multimedia Tools and Applications (Springer)	81	13633–13660	2022
21.	PreetiSoni, **Arup Kumar Pal**, SK Hafizul Islam, Aadarsh Singh, Priyanshu Kumar	Provably secure and biometric-based secure access of e-Governance services using mobile devices	Journal of Information Security and Applications (Elsevier) (Q1)	63	1-15	2021
22.	TanusreeKaibartta, GP Biswas, **Arup Kumar Pal**, Debesh Kumar Das	A Genetic Algorithm-Based Metaheuristic Approach for Test Cost Optimization of 3D SIC	IEEE Access	9	160987-161002	2021
23.	Pooja Mishra, Chiranjeev Bhaya, **Arup Kumar Pal**, Abhay Kumar Singh	A novel binary operator for designing medical and natural image cryptosystems	Signal Processing: Image Communication (Elsevier)	98	1-13	2021
24.	Sumit Kumar, Jitesh Pradhan, **Arup Kumar Pal**	Adaptive Tetrolet Based Color, Texture and Shape Feature Extraction for Content Based Image Retrieval Application	Multimedia Tools and Applications (Springer)	80 (19)	29017-29049	2022

25.	VandanaRathore, **Arup Kumar Pal**	An image encryption scheme in bit plane content using Henon map based generated edge map	Multimedia Tools and Applications (Springer)	80	22275-22300	2021
26.	Jitesh Pradhan, **Arup Kumar Pal,** Haider Banka, Prabhat Dansena	Fusion of region based extracted features for instance- and class-based CBIR applications	Applied Soft Computing (Elsevier)	102	1-24	2021
27.	Kuntal Chowdhury, Debasis Chaudhari, **Arup Kumar Pal**	An Entropy based Initialization Method of K-Means Clustering on the Optimal Number of Clusters	Neural Computing and Applications (Springer)	33	6965–6982	2021
28.	Mukul Majhi, **Arup Kumar Pal**	An Image Retrieval Scheme based on Block Level Hybrid DCT-SVD Fused Features	Multimedia Tools and Applications (Springer)	80	7271–7312	2021
29.	Mukul Majhi, **Arup Kumar Pal,** SK Hafizul Islam, M. K. Khan	Secure content-based image retrieval using modified Euclidean distance for encrypted features	Transactions on Emerging Telecommunications Technologies (Wiley)	32 (2)	2161-3915	2021
30.	Pooja Mishra, Chiranjeev Bhaya, **Arup Kumar Pal,** Abhay Kumar Singh	Compressed DNA Coding using Minimum Variance Huffman Tree	IEEE Communications Letters	24 (8)	1602 - 1606	2020
31.	Jitesh Pradhan, Sumit Kumar, **Arup Kumar Pal,** Haider Banka	Texture and color region separation based image retrieval using probability annular histogram and weighted similarity matching scheme	IET Image Processing	14 (7)	1303 - 1315	2020
32.	Jitesh Pradhan, Ashok Ajad, **Arup Kumar Pal,** Haider Banka	Multi-level colored directional motif histograms for content-based image retrieval	Visual Computer (Springer)	36	1847 - 1868	2020
33.	Shiv Prasad, **Arup Kumar Pal**	Hamming code and logistic-map based pixel-level active forgery detection scheme using fragile watermarking	Multimedia Tools and Applications (Springer)	79	20897 - 20928	2020
34.	Shiv Prasad, **Arup Kumar Pal**	A secure fragile watermarking scheme for protecting integrity of digital images	Iranian Journal of Science and Technology, Transactions of Electrical Engineering (Springer)	44	703–727	2020
35.	Shiv Prasad, **Arup Kumar Pal**	A tamper detection suitable fragile watermarking scheme based on novel payload embedding strategy	Multimedia Tools and Applications (Springer)	79	1673 - 1705	2020
36.	NaushadVarish, **Arup Kumar Pal** et al.	Image Retrieval Scheme Using Quantized Bins of Color Image Components and Adaptive Tetrolet Transform	IEEE Access	8	117639-117665	2020
37.	PreetiSoni, **Arup Kumar Pal,** SK Hafizul Islam	An improved three-factor authentication scheme for patient monitoring using WSN in remote health-care system	Computer Methods and Programs in Biomedicine (Elsevier) (Q1)	182	1-19	2019

38.	Kuntal Chowdhury, Debasis Chaudhuri, **Arup Kumar Pal,** Ashok Samal	Seed selection algorithm through K-means on optimal number of clusters	Multimedia Tools and Applications (Springer)	78 (13)	18617-18651	2019
39.	Jitesh Pradhan, **Arup Kumar Pal,** Haider Banka	Principal texture direction based block level image reordering and use of color edge features for application of object based image retrieval	Multimedia Tools and Applications (Springer)	78 (2)	1685-1717	2019
40.	Jitesh Pradhan, Sumit Kumar, **Arup Kumar Pal,** Haider Banka	A hierarchical CBIR framework using adaptive tetrolet transform and novel histograms from color and shape features	Digital Signal Processing (Elsevier)	82	258-281	2018
41.	Rifaqat Ali, **Arup Kumar Pal**, SaruKumari, Arun Kumar Sangaiah, Xiong Li, Fan Wu	An enhanced three factor based authentication protocol using wireless medical sensor networks for healthcare monitoring	Journal of Ambient Intelligence and Humanized Computing	-	1-22	2018
42.	Rifaqat Ali, **Arup Kumar Pal,** Saru Kumari, M. Karuppiah, Mauro Conti	A secure user authentication and key- agreement scheme using wireless sensor networks for agriculture monitoring	Future Generation Computer Systems (Elsevier)	84	200-215	2018
43.	Naushad Varish, **Arup Kumar Pal**	A novel image retrieval scheme using gray level co-occurrence matrix descriptors of discrete cosine transform based residual image	Applied Intelligence (Springer)	48 (9)	2930-2953	2018
44.	Kshiramani Naik, Saswati Trivedy, **Arup Kumar Pal**	An IWT based blind and robust image watermarking scheme using secret key matrix	Multimedia Tools and Applications (Springer)	77 (11)	13721-13752	2018
45.	Rifaqat Ali, **Arup Kumar Pal**	An efficient three factor-based authentication scheme in multi-server environment using ECC	International Journal of Communication Systems (Wiley)	31 (4)	1-22	2018
46.	Soumitra Roy, **Arup Kumar Pal**	An SVD based location specific robust color image watermarking scheme using RDWT and Arnold scrambling	Wireless Personal Communications (Springer)	98 (2)	223-2250	2018
47.	KshiramaniNaik, **Arup Kumar Pal**	A cryptosystem for lossless/lossy grayscale images in IWT domain using chaotic map-based generated key matrices	International Journal of Wavelets, Multiresolution and Information Processing (World Scientific)	16 (4)	1-23	2018
48.	Kuntal Chowdhury, Debasis Chaudhari, **Arup Kumar Pal**	A new image segmentation technique using Bi-entropy function minimization	Multimedia Tools and Applications (Springer)	77 (16)	20889-20915	2018
49.	Soumitra Roy, **Arup Kumar Pal**	A blind DCT based color watermarking algorithm for embedding multiple watermarks	AEU- International Journal of Electronics and Communications (Elsevier)	72	149-161	2017
50.	Naushad Varish, Jitesh Pradhan, **Arup Kumar Pal**	Image retrieval based on non-uniform bins of color histogram and dual tree complex wavelet transform	Multimedia Tools and Applications (Springer)	76 (14)	15885-15921	2017

51.	Soumitra Roy, **Arup Kumar Pal**	An indirect watermark hiding in discrete cosine transform–singular value decomposition domain for copyright protection	Royal Society Open Science	4(6)	1-22	2017
52.	Shiv Prasad, **Arup Kumar Pal**	An RGB colour image steganography scheme using overlapping block-based pixel value differencing	Royal Society Open Science	4(4)	1-14	2017
53.	NaushadVarish, Sumit Kumar, **Arup Kumar Pal**	A novel similarity measure for content based image retrieval in discrete cosine transform domain	Fundamenta Informaticae (IOS Press)	156 (2)	209-235	2017
54.	Saswati Trivedy, and **Arup Kumar Pal**	A Logistic Map-Based Fragile Watermarking Scheme of Digital Images with Tamper Detection	Iranian Journal of Science and Technology, Transactions of Electrical Engineering (Springer)	41	103–113	2017
55.	Soumitra Roy, **Arup Kumar Pal**	A robust blind hybrid image watermarking scheme in RDWT-DCT domain using Arnold scrambling	Multimedia Tools and Applications (Springer)	76 (3)	3577–3616	2017

13. Books/Reports/Chapters/General articles etc.
    A. List of Books/Chapters Published

Sl No.	Author(s)	Title	Year of Publication	Publisher
1.	Chiranjeev Bhaya, **Arup Kumar Pal**, SK Hafizul Islam	DNA-based Image Cryptosystem with Enhanced Security(Book Chapter)	2023	Advances in Computers, Elsevier, Volume 129, 2023, Pages 129-172, ISSN 0065-2458,
2.	SK Hafizul Islam, Arup Kumar Pal, Debabrata Samanta, Siddhartha Bhattacharyya	Edited Book: Blockchain Technology for Emerging Applications: A Comprehensive Approach	2022	Academic Press ISBN: 978-0-323-90193-2
3.	Jitesh Pradhan, Arup Kumar Pal, Haider Banka	Medical Image Retrieval System using Deep Learning Techniques (Book Chapter)	2021	Springer Publisher Print ISBN: 978-3-030-71675-2 Online ISBN: 978-3-030-71676-9
4.	Ashif Sheikh, Jitesh Pradhan, Arpit Dhuriya, Arup Kumar Pal	Medical Image Fusion using Deep Learning (Book Chapter)	2021	Springer PublisherPrint ISBN: 978-3-030-71675-2 Online ISBN: 978-3-030-71676-9
5.	SK Hafizul Islam, **Arup Kumar Pal,** Shiv Prasad, Soumitra Roy, Raunak Rungta, Shikha Vermal	"Digital Watermarking Algorithms for Multimedia Data", Chapter 5: Authentication Technologies for Cloud Computing, IoT and Big Data (Book Chapter)	2019	IET Publisher ISBN: 978-1-7856-1556-6

6.	Sachin Tripathy, **Arup Kumar Pal**	Edited Proceeding of 4th International Conference on Recent Advances in Information Technology (RAIT), Vol.I&Vol.II	2018	IEEE Publication ISBN: 978-1-5386-3039-6
7.	Sachin Tripathy, **Arup Kumar Pal** Dharavath Ramesh	Edited Proceeding of 4th ISEA International Conference on Security and Privacy (ISEA-ISAP2021), by IEEE Xplore digital library	2021	--

B. List of papers Published/Accepted in Scopus Journals

Sl No.	Author(s)	Title	Name of Journal	Vol.	Page	Year
1.	Shiv Prasad, **Arup Kumar Pal**	Stego-key based image steganography scheme using edge detector and modulus function	International Journal of Computational Vision and Robotics (Inderscience)	13 (3)	223-241	2020
2.	**Arup Kumar Pal**, Soumitra Roy	A Robust and Blind Image Watermarking Scheme in DCT Domain	International Journal of Information and Computer Security (Inderscience)	10 (4)	321 - 340	2018
3.	Soumitra Roy, **Arup Kumar Pal**	A Robust Reversible Image Watermarking Scheme in DCT Domain using Arnold Scrambling and Histogram Modification	International Journal of Information and Computer Security (Inderscience)	10 (2-3)	216-236	2018
4.	Naushad Varish, **Arup Kumar Pal**	Content-Based Image Retrieval using SVD-Based Eigen Images	International Journal of Image Mining(Inderscience)	2(1)	68-83	2016
5.	KshiramaniNaik, **Arup Kumar Pal**	Design of a Cryptosystem for DCT Compressed Image using Arnold Transform and Fractional Fourier Transform	International Journal of Computational Vision and Robotics (Inderscience)	5 (3)	335-346	2015

C. List of papers Published/Accepted in International Conferences in Last Five Years

Sl No.	Author(s)	Title	Name of the Conference	Year
1.	Mahesh Chaurasia, **Arup Kumar Pal**, SK Hafizul Islam, Jitesh Pradhan	Secure Management of Patient Test Data using Blockchain and IPFS	International Conference on Network Security and Blockchain Technology (ICNSBT 2024) at Jalpaiguri Engineering College	June 06-08, 2024
2.	Pramod Kumar, **Arup Kumar Pal** and SK Hafizul Islam	LASKV: Lightweight Authenticated Session Key Agreement for Video Surveillance System	The 2024 Fifth International Symposium on Signal and Image Processing (ISSIP 2024)	March 25-26, 2024.
3.	Bhaskar Biswas, Mahesh Chaurasia , **Arup Kumar Pal** , and Nirmalya Kar	A Blockchain-based Secure Framework for Storage and Access of Surveillance Video Data	The 2024 Fifth International Symposium on Signal and Image Processing (ISSIP 2024)	March 25-26, 2024.

4.	Khushali Malaviya, Pooja Mishra, **Arup Kumar Pal**	Lossless Medical Image Compression using Block-wise Burrows-Wheeler Transform and Modified Run Length Encoding	The 2024 Fifth International Symposium on Signal and Image Processing (ISSIP 2024)	March 25-26, 2024.
5.	Mahesh Chaurasia, and **Arup Kumar Pal**	A Blockchain-based Secure Fragile Watermarking Scheme for Image Tamper Detection	International Conference on Sustainable Development & Management Practices (ICSDMP) – 2024 at IIT(ISM) Dhanbad, India, 09-10 February 2024.	Feb 09-10 2024
6.	Layeba Faheem; Soumya Mukherjee; Mohammad S. Obaidat; **Arup Kumar Pal**; SK Hafizul Islam; Balqies Sadoun	DL-CMFD: Deep Learning-Based Copy-Move Forgery Detection Using Parallel Feature-Extractor	International Conference on Computer, Information and Telecommunication Systems (CITS), Genoa, Italy, 10-12 July 2023, pp. 01-08	July 10-12,2023
7.	Shukla Mondal, **Arup Kumar Pal**, SK Hafizul Islam and DebabrataSamanta	Objectionable Image Content Classification Using CNN-Based Semi-supervised Learning	5th International Conference on Smart Vehicular Technology, Transportation, Communication and Applications (VTCA-2022), December 24-26, 2022, Virtual Conference	Dec 24-26, 2022
8.	Preeti Soni, Mohammad S Obaidat, **Arup Kumar Pal**, SK Hafizul Islam	Rfid-based authentication scheme for secure access of medical data in iot-enabled health environments	Advances in Distributed Computing and Machine Learning: Proceedings of ICADCML 2022 held at National Institute of Technology, Warangal, India	2022
9.	ChiranjeevBhaya, Md. S. Obaidat, **Arup Kumar Pal**, Sk Hafizul Islam	Encrypted Medical Image Storage in DNA Domain	ICC 2021 - IEEE International Conference on Communications	June 14-23, 2021
10.	Jitesh Pradhan, **Arup Kumar Pal**, SkHafizul Islam, Md. S. Obaidat	A Post Dynamic Clustering Approach for Classification-Based Image Retrieval	2020 International Conference on Communications, Computing, Cybersecurity, and Informatics (CCCI 2020) at University of Sharjah, UAE	Nov 3-5, 2020
11.	Preeti Soni, **Arup Kumar Pal**, Kumari Khushboo	A User Convenient Secure Authentication Scheme for Accessing e-Governance Services	10th International Conference on Computing, Communication and Networking Technologies (ICCCNT) at Indian Institute of Technology Kanpur. (Published by IEEE Xplore)	July 6-8, 2019
12.	Mukul Majhi, Jitesh Pradhan, **Arup Kumar Pal**	An Efficient Content Based Image Retrieval Scheme with Preserving the Security of Images	6th International Conference on Signal Processing and Integrated Networks (SPIN) at Amity University Delhi. (Published by IEEE Xplore)	March 7–8, 2019
13.	Soumen Paul, **Arup Kumar Pal**	An Efficient Surveillance Video Coding Scheme for Static Camera Based Captured Video Data	6th International Conference on Signal Processing and Integrated Networks (SPIN) at Amity University Delhi. (Published by IEEE Xplore)	March 7–8, 2019
14.	Srilekha Paul, **Arup Kumar Pal**	Active Forgery Detection in Grayscale Images using CRC-8 based Fragile Watermarking **(Received Best paper Award)**	1st International Conference on Machine Learning, Image Processing, Network Security and Data Sciences at National Institute of Technology Kurukshetra.	March 3–4, 2019

15.	Jitesh Pradhan, Ankesh Raj, **Arup Kumar Pal**	Multi-scale Image Fusion Scheme based on Gray Level Edge Maps and Adaptive Weight Maps	3rd International Conference in Computer Vision and Image Processing (CVIP-2018) at International Institute of Information Technology, Design and Manufacturing, Jabalpur. (Published by Springer)	September 29-October 01,2018
16.	Kuntal Chowdhury, Debasis Chaudhari, **Arup Kumar Pal**	Optimal Number of Seed Point Selection Algorithm of Unknown Data-set	3rd International Conference in Computer Vision and Image Processing (CVIP-2018) at International Institute of Information Technology, Design and Manufacturing, Jabalpur. (Published Springer)	September 29-October 01,2018
17.	Vandana Rathore, Ashish Verma, Aashish Kumar, **Arup Kumar Pal**	A Hénon Map based Cryptosystem for VQ based Compressed Video Data	3rd International Conference on Internet of Things and Connected Technology (ICIoTCT-2018) at MNIT, Jaipur. (Published by Elsevier)	March 26-27, 2018
18.	Shiv Prasad, **Arup Kumar Pal**	Logistic Map-Based Image Steganography Scheme Using Combined LSB and PVD for Security Enhancement	1st International Conference on Emerging technologies in Data Mining and Information Security at Institute of Engineering & Management Kolkata. (Published by Springer)	February 23- 25, 2018
19.	Ankesh Raj, Jitesh Pradhan, **Arup Kumar Pal**, Haider Banka	Multi-Scale Image Fusion Scheme Based on Non-subsampled Contourlet Transform and Four Neighborhood Shannon Entropy Scheme	4th International Conference on Recent Advances in Information Technology (RAIT-2018) at IIT(ISM), Dhanbad. (Published by IEEE Xplore)	March 15-17,2018
20.	Kuntal Chowdhury, Debasis Chaudhari, **Arup Kumar Pal**	A Novel Objective Function Based Clustering with Optimal Number of Clusters	2nd International Conference on Computational Intelligence, Communications, and Business Analytics (CICBA-2018) at Kalyani Govt. Engineering College, West Bengal. (Published by Springer)	July 27-28, 2018
21.	Jitesh Pradhan, Sumit Kumar, **Arup Kumar Pal**, Haider Banka	Texture and Color Visual Features based CBIR using 2D DT-CWT and Histograms	4th International Conference on Mathematics and Computing (ICMC-2018) at IIT(BHU), Varanasi. (Published by Springer)	January 9-11, 2018
22.	Sumit Kumar, Jitesh Pradhan, **Arup Kumar Pal**	A CBIR Technique based on the Combination of Shape and Color Features	International Conference on Advances in Computations and Communication Paradigms at Sikkim Manipal Institute of Technology, Sikkim. (Published by Springer)	September 08-10, 2017
23.	Preeti Soni, Rifaqat Ali, **Arup Kumar Pal**	A Two-factor based Remote User Authentication Scheme using ElGamal Cryptosystem	ACM Workshop on Internet of Things Security: Issues and Innovations (IoTSII2017) at IIT Madras. (Published by ACM)	July 10-14, 2017

14. Details of Ph.D Students (Guided and Ongoing) :

S. No	Name of Student	Title of the Dissertation	Sole or Joint	Status	Remarks
1.	Dr. Kshiramani Naik (2012DR0115)	Design of Some Transform Domain based Image Cryptosystem, Steganography and Watermarking Schemes	Sole	**Awarded**	Assistant Professor Department of IT, VSSUT, Burla
2.	Dr. Naushad Varish (2013DR0252)	Content-Based Image Retrieval Techniques in Transform Domain	Sole	**Awarded**	Faculty at Private University

3.	Dr. Soumitra Roy (2015DR1132)	Irreversible and Reversible Watermarking Schemes of Digital Images	Sole	**Awarded**	Faculty at Private University
4.	Dr. Rifaqat Ali (2014DR0026)	Remote User Authentication Schemes Based on Cryptographic Approach	Sole	**Awarded**	Assistant Professor at NIT Hamirpur
5.	Dr. Jitesh Pradhan (2015DR0263)	Image Feature Extraction and Classification in CBIR	Joint	**Awarded**	Assistant Professor at NIT Jamshedpur
6.	Dr. Shiv Prasad (2013DR0157)	Data Hiding and Protection using Steganography and Fragile Watermarking Techniques	Sole	**Awarded**	Working at Govt. Organization
7.	Dr. Kuntal Chowdhury (2014DR1078)	Some Clustering and Classification Techniques for Images	Joint	**Awarded**	Faculty at Private University
8.	Mr. Sumit Kumar (2015DR0056)	Design of Content based Image Retrieval Schemes and Their Applications	Sole	**Awarded**	Faculty at Private University
9.	Mrs. Pooja Mishra (2016DR1120)	DNA Coding for Error Correction, Data Storage, and Image Cryptosystem	Joint	**Awarded**	Faculty at Private University
10.	Ms. Mukul Majhi (2015DR0082)	Design of Security Schemes for Content Based Image Retrieval	Sole	**Awarded**	Faculty at Private University
11.	Ms. Preeti Soni (17DR000395)	Design of Attack-Resilience Authentication Protocols for Internet Applications	Joint	**Awarded**	Assistant Professor at NIT Hamirpur
12.	Mr. Soumya Mukherjee (18DP000411)	Currently working on Digital Forensic	Sole	Ongoing	Part Time Scholar
13.	Ms. Vandana Rathore (16DR000109)	Currently working on Image/Video Security	Sole	Ongoing	Part Time Scholar
14.	Mr. Shukla Mondal	Currently working on Image Filtering	Joint	Ongoing	Part Time Scholar
15.	Mr. Mahesh Chaurasia (21DR0088)	Currently working on Blockchain	Sole	Ongoing	Full Time Scholar
16.	Mr. Pramod Kumar (18DR0097)	Currently working on Video Surveillance System	Sole	Ongoing	Full Time Scholar
17.	Mr. Chiranjeev Bhaya (23DP0051)	Currently working on DNA Computing and its Applications	Sole	Ongoing	Part Time Scholar

15. Seminars/Short Term Courses/Summer Schools/Winter Schools organized:

Sl No.	From	To	Name of the course	Role	Number of Participants
1.	26 Dec 2014	30 Dec 2014	Short Term Course on "Digital Image Processing and Its Applications"	Coordinator	38
2.	13 June 2016	17 June 2016	Short Term Course on "Image Processing: Algorithms and Applications"	Coordinator	14
3.	14 Sept 2016	18 Sept 2016	Short Term Course on "Hands-on Session on MONOSEK-Real Time Network Packet Processing & Network Session Analysis"	Co-Coordinator	36

4.	19 Dec 2016	23 Dec 2016	Short Term Course on "Mathematics of Cryptography with Image and Bluetooth Security Applications"	Co-Coordinator	13
5.	28 Jan 2016	30 Jan 2016	Workshop on "Information and Cyber Security"	Co-Coordinator	35
6.	09 Feb 2017	10 Feb 2017	Workshop on "Communications and Multimedia Security"	Co-Coordinator	55
7.	13 Dec 2017	17 Dec 2017	Short Term Course on "Coding Theory and Cryptography: Fundamentals and Applications"	Co-Coordinator	51
8.	10 Feb 2018	14 Feb 2018	GIAN Course on "Security of E-Systems and Networks"	Co-Coordinator	12
9.	15 March 2018	17 March 2018	4th IEEE International Conference on Recent Advances in Information Technology	Co-Coordinator	150 (Approx.)
10.	05 October 2020	09 October 2020	One Week Webinar on "Cyber Security Techniques with Application".	Coordinator	95

(Arup Kumar Pal)