Photo	Name/Qualification	Telephone No./Email ID	Specialization
	PAWAN KUMAR SINGH Ph.D.	+91-9883033913 +91-6291555693 pksingh.it@jadavpuruniversity.in pawankrsingh.cse@gmail.com	Handwritten Document Analysis, Pattern Recognition, Image and Video Processing, Machine Learning in Healthcare and Agriculture, Brain Informatics, Computer Vision, Deep Learning and Artificial Intelligence

Dr. Pawan Kumar Singh

Assistant Professor, Department of Information Technology

PH: +91-9883033913

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Web Address:

Google Scholar Link: https://scholar.google.co.in/citations?user=LctgJHoAAAAJ&hl=en

Courses Taught/Teaching:

Computer Programming and Numerical Methods (Theory and Lab), Big Data (Theory and Lab), Machine Learning (Theory and Lab), Computer Organization, Architecture and Networking (Theory), Data Science (Theory), Data Structure, Algorithms & OOPs (Theory)

Experience:

9+ Years

Conference Papers Published:

Sl. No.	Title of Paper	Name of Authors	Name of the Conference	Year	Volume and Page Number
1.	Emotion Recognition from EEG Data Using Hybrid Deep Learning Approach	Trishita Dhara, Pawan Kumar Singh	Proc. of 7th International Conference on Emerging Applications of Information Technology (EAIT-2022), Frontiers of ICT in Healthcare	2022	LNNS, Springer, Singapore, Vol. 519, pp. 179-190
2.	Multi-level Stress detection using ensemble filter-based feature selection Methodology	Arham Reza, Pawan Kumar Singh, Mufti Mahmud, David Brown, Ram Sarkar	Proc. of 2nd International Conference on Trends in Electronics and Health Informatics (TEHI-2022)	2022	LNNS, Vol. 675, pp. 161-173, Springer, Singapore
3.	Supervision meets Self-supervision: A Deep Multitask Network for Colorectal Cancer Histopathological Analysis	Aritra Marik, Soumitri Chattopadhyay, Pawan Kumar Singh	Proc. of 4th International Conference on Machine Intelligence and Signal Processing (MISP-2022), Machine Learning and Computational Intelligence Techniques for Data Engineering	2023	LNEE, Springer, Vol. 998, pp. 475-485, 2023
4.	Performance Comparison of various YOLO models for Vehicle Detection An Experimental Study	Sourajit Maity, Arpan Chakraborty, Pawan Kumar Singh, Ram Sarkar	Proc. of 4th International Conference on Data Analytics & Management (ICDAM-2023), Springer	2023	LNNS, Vol. 787, pp. 677-684, London Metropolitan University, United Kingdom

Journal Papers Published:

Sl. No.	Title of Paper	Name of Co-Authors	Name of the Journal	Year	Volume and Page number
1	Automatic spoken language identification using MFCC based time series features	Mainak Biswas, Saif Rahaman, Ali Ahmadian, Kamalularifin Subari, Pawan Kumar Singh	Multimedia Tools and Applications (Special Issue: Intelligent Multimedia Data Analytics and Computing) DOI: https://doi.org/10.1007/s11042-021-11439-1	2022	Vol. 82, pp. 9565–9595
2	3D Human Action Recognition: Through the eyes of researchers	Arya Sarkar, Avinandan Banerjee, Pawan Kumar Singh, Ram Sarkar	Expert Systems With Applications, Elsevier. (DOI: https://doi.org/10.1016/j.eswa.2021.116424)	May 2022	Vol. 193, 116424
3	A feature selection model for speech emotion recognition using clustering-based population generation with hybrid of equilibrium optimizer and atom search optimization algorithm	Soham Chattopadhyay, Arijit Dey, Pawan Kumar Singh, Ali Ahmadian, Ram Sarkar	Multimedia Tools and Applications (Special Issue: Intelligent Multimedia Data Analytics and Computing), Springer Publishers (DOI: https://doi.org/10.1007/s11042-021-11839-3)	2022	Vol. 82, pp. 9693–9726
4	DRDA-Net: Dense residual dual-shuffle attention network for breast cancer classification using histopathological images	Soham Chattopadhyay, Arijit Dey, Pawan Kumar Singh, Ram Sarkar	Computers in Biology and Medicine, Elsevier Publishers (DOI: https://doi.org/10.1016/j.compbiomed.2022.105437)	2022	145, 105437
5	A union of deep learning and swarm-based optimization for 3D human action recognition	Hritam Basak, Rohit Kundu, Pawan Kumar Singh, Muhammad Fazal Ijaz, Marcin Woźniak, Ram Sarkar	Scientific Reports, Springer Nature. (DOI: https://doi.org/10.1038/s41598-022-09293-8)	2022	12:5494, pp. 1-17
6	GRaNN: feature selection with golden ratio-aided neural network	Avishek Garain, Biswarup Ray, Fabio Giampaolo, Juan D. Velasquez, Pawan Kumar Singh, Ram Sarkar	Neural Computing and Applications, Springer Publishers. (DOI: https://doi.org/10.1007/s00521-022-07261-x)	2022	Vol. 34, pp. 14463–14486

	for emotion, gender and speaker identification from voice signals				
7	Ensem-HAR: An Ensemble Deep Learning Model for Smartphone Sensor-Based Human Activity Recognition for Measurement of Elderly Health Monitoring	Debarshi Bhattacharya, Deepak Sharma, Wonjoon Kim, Muhammad Fazal Ijaz, Pawan Kumar Singh	Biosensors, MDPI Publishers. (DOI: https://doi.org/10.3390/bios12060393)	2022	Vol. 12, No. 6:393, pp. 1-25
8	Last Decade in Vehicle Detection and Classification: A Comprehensive Survey	Sourajit Maity, Avirup Bhattacharyya, Pawan Kumar Singh, Munish Kumar, Ram Sarkar	Archives of Computational Methods in Engineering, Springer Publishers. (DOI: https://doi.org/10.1007/s11831-022-09764-1)	2022	Vol. 29, pp. 5259–5296.
9	An ensemble approach for still image-based human action recognition	Avinandan Banerjee, Sayantan Roy, Rohit Kundu, Pawan Kumar Singh, Vikrant Bhateja, Ram Sarkar	Neural Computing and Applications, Springer Publishers (DOI: https://doi.org/10.1007/s00521-022-07514-9)	2022	Vol. 34, pp.19269–19282
10	COVID-19 chest X-ray detection through blending ensemble of CNN snapshots	Avinandan Banerjee, Arya Sarkar, Sayantan Roy, Pawan Kumar Singh, Ram Sarkar	Biomedical Signal Processing and Control, Elsevier Publishers. (DOI: https://doi.org/10.1016/j.bspc.2022.104000)	2022	78:104000, pp. 1-9
11	MIC_FuzzyNET: Fuzzy Integral Based Ensemble for Automatic Classification of Musical Instruments From Audio Signals	Karam Kumar Sahoo, Ridam Hazra, Muhammad Fazal Ijaz, Seongki Kim, Pawan Kumar Singh, Mufti Mahmud	IEEE Access (DOI: 10.1109/ACCESS.2022.3208126)	2022	Vol. 10, pp. 100797-100811
12	MTRRE-Net: A deep learning model for detection of breast cancer from histopathological images	Soham Chattopadhyay, Arijit Dey, Pawan Kumar Singh, Diego Oliva, Erik Cuevas, Ram Sarkar	Computers in Biology and Medicine, Elsevier Publishers, (DOI: https://doi.org/10.1016/j.compbiomed.2022.106155)	2022	150, 106155
13	A hybrid deep feature selection framework for emotion recognition from human speeches	Aritra Marik, Soumitri Chattopadhyay, Pawan Kumar Singh	Multimedia Tools and Applications, Springer Publishers (Special Issue: 1226 Deep-Patterns Emotion Recognition in the Wild). (DOI:	2023	Vol. 82, Issue 8, pp. 11461-11487

			https://doi.org/10.1007/s11042-022-14052-y)		
14	Classification of Mental Stress from Wearable Physiological Sensors Using Image-Encoding-Based Deep Neural Network	Sayandeep Ghosh, Seongki Kim, Muhammad Fazal Ijaz, Pawan Kumar Singh, Mufti Mahmud	Biosensors, MDPI Publishers. (DOI: https://doi.org/10.3390/bios12121153)	2022	Vol. 12, No. 1153, pp. 1-15
15	Wrapper-based deep feature optimization for activity recognition in the wearable sensor networks of healthcare systems	Karam Kumar Sahoo, Raghunath Ghosh, Saurav Mallik, Arup Roy, Pawan Kumar Singh, Zhongming Zhao	Scientific Reports, Springer Nature. (DOI: https://doi.org/10.1038/s41598-022-27192-w)	December 2022	13:965, pp. 1-18
16	JUVDsi v1: developing and benchmarking a new still image database in Indian scenario for automatic vehicle detection	Avirup Bhattacharyya, Avigyan Bhattacharya, Sourajit Maity, Pawan Kumar Singh, Ram Sarkar	Multimedia Tools and Applications, Springer Publishers. (DOI: https://doi.org/10.1007/s11042-023-14661-1)	2023	pp. 1-33
17	SnapEnsemFS: A snapshot ensembling-based deep feature selection model for colorectal cancer histological analysis	Soumitri Chattopadhyay, Pawan Kumar Singh, Muhammad Fazal Ijaz, Seongki Kim, Ram Sarkar	Scientific Reports, Springer Nature. (DOI: https://doi.org/10.1038/s41598-023-36921-8)	2023	13:9937, pp. 1-18
18	A Fuzzy Ensemble-based Deep Learning Model for Emotion Recognition from EEG Signals	Trishita Dhara, Pawan Kumar Singh, Mufti Mahmud	Cognitive Computation, Springer Publishers. (DOI: https://doi.org/10.1007/s12559-023-10171-2)	2023	pp. 1-15
19	Identifying Genetic Signatures from Single-cell RNA Sequencing Data by Matrix Imputation and Reduced Set Gene Clustering	Soumita Seth, Saurav Mallik, Atikul Islam, Tapas Bhadra, Arup Roy, Pawan Kumar Singh, Aimin Li, Zhongming Zhao	Mathematics, MDPI Publishers. (DOI: https://doi.org/10.3390/math11204315)	2023	Vol. 11, No. 4315, pp. 1-26
20	Two Decades of Vehicle Make and Model Recognition – Survey, Challenges and Future Directions	Soumyajit Gayen, Sourajit Maity, Pawan Kumar Singh, Zong Woo Geem, Ram Sarkar	Journal of King Saud University - Computer and Information Sciences. (DOI: https://doi.org/10.1016/j.jksuci.2023.101885)	2024	Vol. 36, Article 101885, Issue 1, pp. 1-23
21	JUIVCDv1: Development of a Still-image-based Dataset for	Sourajit Maity, Debam Saha, Pawan	Multimedia Tools and Applications, Springer Publishers. (DOI:	2024	pp. 1-28

	Indian Vehicle Classification	Kumar Singh, Ram Sarkar	https://doi.org/10.1007/s11042-024-18303-y)		

Research Experience (5):

Sl. No.	Name of Institute/University	Designation	From	To	Duration
1.	Metharath University, Thailand	Remote Research Fellow	08, January, 2024	08, January, 2027	36 months
2.	School of Science and Technology, Nottingham Trent University, UK	Visiting Post-Doctoral Scholar	18th April, 2022	31st, July, 2022	3 months
3.	Department of Intelligent Mechatronics Engineering, Sejong University, South Korea	Visiting Postdoctoral Researcher	October, 2020	March, 2022	18 months
4.	Industrial and Systems Engineering Department, Dongguk University, South Korea	Visiting Postdoctoral Researcher	March, 2020	August, 2020	6 months
5.	Department of Computer Science and Engineering, Jadavpur University	Post-Doctoral Fellow	5th March, 2019	5th September, 2019	6 months

Book Chapter Published:

Sl. No.	Name of Book/Monograph/Book Chapter(s)	Name of Author(s), if any	Publisher with address	Year of Publication
1.	Developing Hybrid Intelligence Based Recommender System: A Search Towards Machine Learning Components	Arup Roy, Pawan Kumar Singh	LAP Lambert Academic Publishers, UK	2023
2.	Recognizing Human Activities of Daily Living Using Mobile Sensors for Health monitoring	Raghunath Ghosh, Soham Chattopadhyay, Pawan Kumar Singh	Internet of Things and Data Mining for Modern Engineering and Healthcare Applications. Chapman & Hall, CRC Press, Taylor and Francis Group, Chapter 3, pp. 29-44	2023
3.	Designing a GUI for Offline Text-Independent Writer Identification System	Sreejita Chakrabarti, Pawan Kumar Singh	Recent Advances in Intelligent Computing, CRC Press, Taylor and Francis Group, Chapter 3, pp. 27-40	2023
4.	A Hybrid Deep Learning-based Approach for Human Activity Recognition using Wearable Sensors	Deepak Sharma, Arup Roy, Sankar Prasad Bag, Pawan Kumar Singh, Youakim Badr	Innovations in Machine and Deep Learning: Case Studies and Applications, Studies in Big Data, Vol. 134, Springer, Chapter 5, pp. 231-260	2023
5.	Speech Emotion Recognition using Deep CNNs trained on Log-Frequency Spectrograms	Mainak Biswas, Mridu Sahu, Maroi Agrebi, Pawan Kumar Singh, Youakim Badr	Innovations in Machine and Deep Learning: Case Studies and Applications, Studies in Big Data, Vol. 134, Springer, Chapter 11, pp. 83-108	2023
6.	A Filter-based Feature Selection Framework for Vehicle/Non-Vehicle Classification	Atikul Islam, Saurav Mallik, Arup Roy, Maroi Agrebi, Pawan Kumar Singh	Measurements and Instrumentation for Machine Vision, CRC Press, Taylor & Francis Group, Boca Raton, Chapter 6, 20 pages	2024

MASTER Thesis Guidance (5):

Name Of The Scholar	Title Of The Thesis	Co-supervisor	Year
Sreejita Chakrabarti	Offline Text Independent Writer Identification System: A Comparative Study	-	2021
Surya Kanti Bhattacharya	Spoken Language Identification System For Indian Languages	-	2021
Sujit Kumar Mondal	Word-level handwritten Indic script identification using Deep Learning	-	2022
Deepak Sharma	A Hybrid Deep Learning based approach for Complex Human Activity Recognition using Wearable Sensors	-	2022
Raghunath Ghosh	Wrapper-Based Deep Feature Optimization for Activity Recognition from Wearable Sensor Networks for Healthcare Applications	-	2022

Patents (2):

Patent Name	Year
Edge cloud-based platform with hybridized random forest deep learning classification model for COVID-19 with pneumonia detection	**IPR Application No.: 202341011900,** Date of Filing: 22-02-2023, Date of Publication: 17-03-2023
Distributed Vectors of a newly created Local Multi scale Fourier Transform For use in Medical Imaging	**IPR Application No.: 202341059058,** Date of Filing: 04-09-2023, Date of Publication: 06-10-2023

Invited Lectures (3):

Title	Organized By	Venue	Year
Faculty Development Programme on "Computer Vision and its Applications"	Dept. of Computer Science and Engineering, Institute of Engineering	Kolkata	7-11 March, 2022

	and Management, Kolkata		
Faculty Development Programme on "Future Proofing Technology: Navigating Emerging Trends in Computing and Security"	Adamas University and A.K. Choudhury School of Information Technology, University of Calcutta	Kolkata	24-28 July, 2023
State Level Online Workshop on "Artificial Intelligence"	Department of Mathematics and IQAC, Uluberia College in collaboration with Bijoy Krishna Girls' College	Uluberia College, Howrah	2023

Seminar/Conference/Workshop :

Program Name	Organized By	Venue	Year	Type of Participation
4th International Conference on **Machine Intelligence and Signal Processing (MISP 2022)**	Department of Computer Science and Engineering, National Institute of Technology, Raipur	NIT Raipur	2022	Participated
5 Days Online Faculty Development Program on "**Machine Learning and Deep Learning Approach towards Computer Vision**"	Department of Computer Applications (MCA), Dr. B.C. Roy Engineering College, Durgapur, India	Dr. B.C. Roy Engineering College, Durgapur, India	2022	Participated
5 Days Online Faculty Development Program on "**Recent Advances in Science and Technology Innovations**"	Department of Biotechnology, Vignan's Foundation for Science, Technology & Research, Guntur, Andhra Pradesh	Andhra Pradesh, India	2022	Participated
2nd International Conference on **Trends in Electronics and Health Informatics (TEHI 2022)**	Meritorious Autonomous University of Puebla, Mexico	Mexico	2022	Participated
One Week Online International Workshop on "**Technical Writing Using LaTeX**"	School of Electronics Engineering (SENSE) at VIT-AP University, Amaravati, India	Amaravati, India	2023	Participated
4th International Conference on **Data Analytics &**	London Metropolitan University, London, UK in association with the	London Metropolitan	2023	Participated

Management (ICDAM-2023)	Karkonosze University of Applied Sciences, Jelenia Gora, Poland, Europe, Politécnico de Portalegre, Portugal, Europe and BPIT, GGSIPU, Delhi	University, London, UK		
One Week Online Faculty Development Program on **"Security Aspects in Computer Science and its Applications (SACSA-2023)"**	Department of Computer Science & Engineering, Motilal Nehru National Institute of Technology Allahabad, Prayagraj, Uttar Pradesh, India	Uttar Pradesh, India	2023	Participated

Session Chaired (2):

Program Name	Session Title	Organized By	Venue	Year
9th International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA)		National Institute of Technology, Mizoram, India		2021
4th International Conference on Frontiers in Computing and Systems (COMSYS-2023)		School of Computing and Electrical Engineering (SCEE), IIT Mandi and COMSYS Educational Trust, Kolkata, India	IIT Mandi	2023

Professional Society Activity (14):

1. Track Chair (AI, ML and Data Science Track), 3rd International Conference on Frontiers and Systems (COMSYS-2022), IIT Ropar held during 19-21 December, 2022.

2. Technical Program Committee Member, 6th International Conference on Advances in Image Processing (ICAIP), Sponsored by Guangdong Ocean University, Zhanjiang, China during November 18-20, 2022.
3. Editorial Board Member of Artificial Intelligence and Applications (AIA) journal.
4. Technical Program Committee Member, IEEE International Interdisciplinary Conference on Mathematics, Engineering & Science (MESIICON 2022), Dr. B. C. Roy Engineering College, Durgapur, November 11-12, 2022.
5. Reviewer Committee Member, 2nd International Conference on Advanced Network Technologies and Intelligent Computing (ANTIC-2022), Department of Computer Science, Institute of Science, Banaras Hindu University, Varanasi, India, December 22-24, 2022.
6. Technical Program Committee Member, 5th International Conference on Computational Intelligence in Communications and Business Analytics (CICBA-2023), Kalyani Government Engineering College, January 27-28, 2023.
7. Guest Editor of SI: Information Retrieval through IoT, Metaverse and their applications in Bio-inspired Computing in Journal of Data Science and Intelligent Systems.
8. Secretary, IEEE Young Professionals (YP) Affinity Group from 2023 to 2024.
9. Track Chair (AI, ML and Data Science Track), 4th International Conference on Frontiers and Systems (COMSYS-2023), IIT Mandi held during 16-17 October, 2023.
10. Technical Advisory Board Member, International Conference on Technological Trends in Computing & Business Environment (ITCBE-2024), Haldia Institute of Technology, Haldia, W.B., India, 2nd –3rd February, 2024.
11. Associate Editor, Frontiers in Artificial Intelligence, Fuzzy Systems.
12. Technical Session Chair, 4th International Conference on Frontiers and Systems (COMSYS-2023), IIT Mandi held during 16-17 October, 2023.
13. Technical Program Committee Member, 8th International Conference on Advances in Image Processing (ICAIP), Chengdu, China, during October 18-20, 2024.
14. Track Chair (AI, ML and Data Science Track), 5th International Conference on Frontiers and Systems (COMSYS-2024), BITS Pilani K. K. Birla Goa Campus, Goa, India and COMSYS Educational Trust, Kolkata held during 13-15 December, 2024.

Other Notable Activities (3)

Member of Centre for Microprocessor Application for Training, Education and Research (CMATER): https://www.cmaterju.in/