RAM SINGH

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Assistant Professor
Department of Computer Science & Engineering
PUNJABI UNIVERSITY PATIALA – 147002
Punjab (INDIA)
Mob: +91-9463067522, 9646483424
E-mail: bhankharz@gmail.com

Research Area(s)	Computer Vision & Image Processing including Medical Image Processing, Machine Learning/Deep Learning Algorithms and Computer Programming C/C^{++}/Python
Education:	i) Ph.D – Punjabi University Patiala (*pursuing) ii) M.Tech. (CSE) – Kurukshetra University iii) M.C.A. – Kurukshetra University iv) B.Tech. (CSE) – TIET Patiala
Experience:	i) July 2006 – July 07 LKCMT, Lecturer ii) July 2007-July 2009 GJUST, Hisar/Thapar Polytechnic, Lecturer iii) July 2009-Dec 2011 PUAPSNC, Dehla Sihan, Lecturer/Astt.Prof. iv) Dec 2011- to date DCSE, Punjabi University Patiala
Teaching Area(s):	i) C/C^{++}/Python/Visual Programming ii) Computer Graphics iii) Discrete Mathematical Structures iv) Digital Image Processing
Research Guidance (M.Tech.)	i) Satellite's Image Segmentation Techniques for Road Extraction ii) Noise Removal Techniques in Gray-scale Digital Images iii) Detail Preserving and Noise Removal from Digital Images using Bilateral Algorithm iv) Prediction of Heart Diseases using Data Mining Techniques v) Deep Convolution Neural Network for Image Denoising vi) Brain Tumor Segmentation in Magnetic Resonance Images vii) Performance Evaluation of Noise Filtering Techniques in Computed Tomographic Images

Publications:

A) Journals:

2015	i) Various methods of road extraction from satellite images: A review, IJR, pp:1025-32, 2015
	ii) A Robust Road Extraction method using Luminance color space & comparison with un-sharp masking methods, IJARCSE, pp: , Vol. 5, Issue 5, May, 2015.
	iii) Image de-noising techniques: a review paper, IJTRE, 1649-53, 2015
	iv) Noise Estimation and Removal from Grey-scale images using Non-Local Means Algorithm, IJARSCE, pp: 1461-1467, Vol. 5, Issue 5, May, 2015
2017	i) Image Filtering Techniques: A Review, IJARSE, pages: 2066-2071,
2018	i) Deep Learning Image Denoising Techniques: IJRECE, A Review, pages: 459-65
	ii) Sparsity-based image Denoising via deep learning and structural clustering, GJESR, pages: 13-22
	iii) Novel Approach for Prediction of Heart Diseases in Data Mining, GJESR, pages: 23-35
2020	i) Noise Variance Estimation in Magnetic Resonance Images, Adv. In Math.:Scientific Journal, pages: 3855-63 (Scopus)
2021	i) Noise Residue Learning Convolutional Neural Network Model for Magnetic Resonance Image Enhancement, JoP, IOP (Scopus)
	ii) Magnetic Resonance Image Denoising using Patchwise Convolutional Neural Networks,
	iii) Compressive Sensing Magnetic Resonance Image Reconstruction and Denoising using Convolutional Neural Network, JoP, IOP (Scopus)
2022	i)

Conferences:

Wavelet Transform Techniques for Medical Images Denoising	Int. Conf. on Emerging Areas of Mathematics for Sc & Tech.	Deptt of Math. Punjabi University	International Jan-30:Feb 2,2015
Rician noise removal in 3D MR images using NLM filter	Int. Conf.	Deptt of CSE, Punjabi University	International 2016
Heart Disease Prediction by Data Mining Techniques: A Review	Int. Conf. on Computing Trends & e-Business Technologies (CTeBT-2018)	Lyallpur Khalsa College, Jalandhar (Punjab)	International May 05, 2018
Magnetic Resonance Image Denoising using patch-wise	IEEE sponsored international	Bharti Vidyapeeth, New Delhi	International March 19-20, 2021

convolutional neural network	conference INDIACom-21		
Applications of Deep Convolutional Neural Network for Medical Image Analysis: A Review	8th Int. Conf. on Advancements in Engineering and Technology	BGIET Sangrur	International March 20-21, 2020
Deep Convolutional Neural Network for 3-D Magnetic Resonance Image Super-Resolution	National Conf. on Wireless Communication, Computing and Informatics-2021	Mata Sundri University Girls College, Mansa (Punjab)	National April 20, 2021
Denoising and Reconstruction of Compressive Sensed Magnetic Resonance Images using Convolution Neural Network	First Int. Conf. on AI, Computational Electronics and Comm. Systems (AICECS-2021)	MIT Manipal (Karnataka)	International Oct, 28-30, 2021

Book Chapters:

2019 i) Nonnegative Matrix Factorization Methods for Brain Tumour Segmentation in Magnetic Resonance Images, page: 361-174

2020 i) Adaptive Median Absolute Deviation Methods for Noise Estimation and Removal in Magnetic Resonance Images, page: 138-144

2021 i) Denoising and Segmentation of Brain Tumor in MRI using CNN

Training course/Refresher courses/Workshops attended:

2012 National Workshop on '**Digital Image Processing using MATLAB'**, conducted at Department of Computer Science, Punjabi University, Patiala from November 29 – December 05, 2012

02-week ISTE workshop on 'Computer Programming' conducted by IIT Bombay from May 20-June 21, 2012

2013 04 weeks '**UGC sponsored 'Orientation Course'** at HRDC Punjabi University Patiala from July 10 – August 06, 2013

02-week ISTE-STTP workshop on 'Introduction to Design Algorithms, conducted by IIT Kharagpur from April 21-May 30, 2015

2016 02-week STC on 'Cyber Threat Detection & Safety', conducted by NITTTR Chandigarh from January 04/01/16 to 15/01/16

2018 TEQIP III Sponsored Short Term Training Programme on "Mathematical Modelling and Statistical Techniques (MMST-2018)" at Department of Mathematics SLIET Longowal from July 30-August 03, 2018.

National level Workshop on "LaTex and Technical Writing" conducted by Department of Basic and Applied Sciences, Punjabi University Patiala from 23-25 November, 2018.

2019 AICTE recognized short-term course on "Microcontroller and It's Applications" from 07/01/2019 to 11/01/2019 conducted by NITTTER at ECE department, PUP.

AICTE recognized FDP on “Cloud Computing” conducted by NITTTER Chandigarh from 27/05/19 to 31/05/19

AICTE recognized FDP on “Deep Learning” conducted by NITTTER Chandigarh from 22/07/19 to 26/07/19

AICTE recognized FDP on “Internet of Things (IoT)” conducted by NITTTER Chandigarh from 23/09/19 to 27/09/19

A workshop on “Essentials of NBA Accreditation” held on 28 November 2019 at Department of Computer Science & Engineering, Punjabi University Patiala

AICTE recognized FDP on “Cyber Security” conducted by NITTTER Chandigarh from 09/12/19 to 13/12/19 at Punjabi University Patiala

2020 Short term course on “Introduction to Deep Learning” conducted by Indo-Taiwan joint Research Center on Artificial Intelligence and Machine Learning, IIT Ropar during February 2020

AICTE recognized FDP on “Data Analytics using Python” conducted by NITTTER Chandigarh from 18/05/2020 to 22/05/20

Short term course on “Deep Learning Applications in Image Processing under Security ambit” organized by ECE Department of NIT, Rourkela from October 05-09, 2020

2021 AICTE ATAL online FDP on “Mathematics for Machine Learning” from 18/01/21 to 22/01/2021.

AICTE and UGC approved short term course on “Machine Learning for Computer Vision 2021” conducted by EICT Academies (online) from February 01-12, 2021.

AICTE ATAL online FDP on “Artificial Intelligence in Biomedical Engineering: Current Trends and Future” from 05/07/21 to 09/07/2021.

A STC on “Machine Learning for Data Science” from 19/07/21 to 28/07/2021 conducted by NIT Warangal

AICTE ATAL online FDP on “Research and Innovation with 3D Printing” from 02/08/21 to 06/08/2021.

AICTE recognized Short Term Course on “Python for Machine Learning” conducted by Center for Continuing Education, NIT, Warangal from 16/08/2021 to 20/08/2021.

AAICTE ATAL online FDP on “Deep Learning for Computer Vision” from 23/08/21 to 27/08/2021.

A refresher course organized by HRDC, Punjabi University Patiala from October 18-30, 2021

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