



Dr. Pooja Sharma
(Gold Medalist)
UGC (NET and JRF)
Assistant Professor (Computer Applications)
Department of Computer Science and Engineering
IKG Punjab Technical University,
Main Campus, Kapurthala, Punjab, India.
E-mail: dr.poojasharma@ptu.ac.in

Research Interests

- Machine & Deep Learning
- Data Analysis
- Digital Image Processing
- Medical Imaging
- Computer Vision
- Pattern Recognition
- Image Retrieval
- Image Reconstruction
- Face Recognition

Academic Qualification

SNO.	DEGREE	UNIVERSITY/INSTITUTION	YEAR	REMARKS
1.	PhD	Punjabi University, Patiala	2013	05 SCI Publications
2.	MCA	PTU, Jalandhar	2008	Merit Position
3.	MSc(CS)	GNDU, Amritsar	2007	1 st in University
4.	BCA	GNDU, Amritsar	2005	4 th in University
5.	12 th (Non-med.)	PSEB, Mohali	2002	Merit Position
6.	10 th	PSEB, Mohali	2000	Merit Position
7.	NET and JRF	UGC, New Delhi	2008	JRF Scholarship

Awards/Fellowship

SNO.	NAME OF AWARD	LEVEL
1.	Junior Research Fellowship and Senior Research Fellowship by UGC, New Delhi	National
2.	1 st University Position and Gold Medal in Master's Degree	State
3.	4 th University Position in Bachelor's Degree	State
4.	NIIT (3rd National IT Aptitude Test) Merit Position among top 14% candidates	National

Research IDs

[SCOPUS](#), [ORCID](#), [ResearchGate](#), [Google Scholar](#)

SCI/Scopus Publications

SNo.	Paper Title	Journal	Publisher	Online Link
1.	A Comprehensive Review of Multifactorial Determinants and Predictors of Malnutrition in Adolescent Girls	Discover Public Health	Springer	Link
2.	Smart healthcare: the role of AI, robotics, and NLP in advancing telemedicine and remote patient monitoring	BMC: Artificial Intelligence	Springer	Link
3.	Improved shape matching and retrieval using robust histograms of spatially distributed points and angular radial transform	Optik - International Journal for Light and Electron Optics	Springer	Link
4.	Improving image retrieval using combined features of Hough transform and Zernike moments	Optics and Lasers in Engineering	Elsevier	Link
5.	Analysis of algorithms for fast computation of pseudo Zernike moments and their numerical stability	Digital Signal Processing	Elsevier	Link
6.	Local and global features based image retrieval system using orthogonal radial moments	Optics and Lasers in Engineering	Elsevier	Link
7.	An effective image retrieval using the fusion of global and local transforms based features	Optics and Laser Technology	Elsevier	Link
8.	Performance analysis of various local and global descriptors on image retrieval system	Multimedia Systems	Springer	Link
9.	On image reconstruction, numerical stability, and invariance of orthogonal radial moments and radial harmonic transforms	Pattern Recognition and Image Analysis	Springer	Link

Peer Reviewed Publications

SNo.	Paper Title	Journal	Online Link
1.	Survey on Prediction and Analysis of Diabetic Data using Machine Learning Techniques	International Journal of Computer Sciences and Engineering	Link

Conference Publications (Scopus Indexed)

2.	Review of Hybrid Intrusion Detection System	International Journal of Computer Sciences and Engineering	Link
3.	Advancements in ChatGPT: A comparative analysis of accuracy and performance between versions 3.5 and 4.0	World Journal of Advanced Engineering Technology and Sciences	Link
4.	Prediction and Analysis of Diabetic Data using Machine Learning Techniques	Journal of Emerging Technologies and Innovative Research	Link
5.	Hybrid Intrusion Detection System Model Using Improved J48 And Improved K-Means Clustering Algorithm	Journal of Emerging Technologies and Innovative Research	Link
6.	Comparative Analysis of Machine Learning Classifiers on US Airline Twitter Dataset	International Research Journal of Engineering and Technology	Link
7.	The Growing Role of AI and ChatGPT in Transforming the Financial Industry: Opportunities and Challenges	International Research Journal of Engineering and Technology	Link
8.	Vulnerability Assessment of Routing Protocols in MANET	RESEARCH REVIEW International Journal of Multidisciplinary	Link
9.	Security Methods Against TCP Syn Flooding DDOS Attacks In Wireless Networks- A Survey	Technical Research Organization of India	Link

Sno.	Paper Title	Conference Title	Publisher	Online Link
1.	Synthetic Data Generation for Smart Farming on the basis of Agricultural Images by using various Generative AI Models	International Conference on Computer and Information Science (CCIS), 2025, AVB-IIIT, Guwahati	Springer	Link
2.	Energy-Aware Cloud Task Scheduling with XGBoost and Tabu Search: The XGTabu Approach	International Conference on Computational Intelligence and Network Systems (CINS), 2024, BITS, Dubai	IEEE	Link
3.	Effective image retrieval using polar cosine transform and local binary patterns	India International Conference on Information Processing (IICIP). 2016, DTU, New Delhi	IEEE	Link

Book Publications (International)

4.	Analysis of Biomedical Image Reconstruction	International Conference on latest Trends on Science, Technology, and Management, NITTR Chandigarh	Academic Science	Link
5.	An Effective Image Retrieval using Region and Contour Based Features	International Conference on Recent Advances and Future Trends in Information Technology (iRAFIT 2012), Punjabi University, Patiala	IJCA	Link

Book Chapter Publications (Scopus Indexed)

SNo.	Book Title	Publisher	Online Link
1.	Data Preparation and Analysis: An easy approach to master data	BPB Publications	Link
2.	Simplified Machine Learning: The essential building blocks for Machine Learning expertise	BPB Publications	Link
3.	Programming in Python	BPB Publications	Link

SNo.	Chapter	Book	Publisher	Online Link
1.	ChatGPT in Medicine: Partnering with Doctors for Better Healthcare	Metaverse and AI in Healthcare A Federated Learning Approach	Elsevier	Link
2.	Fusion of Phase and Local Features for CBIR	Integrating Metaheuristics in Computer Vision for Real-World Optimization Problems	Wiley	Link
3.	Revolutionizing Transportation: The Power of Artificial Intelligence	Artificial Intelligence and Machine Learning for Smart Community: Concepts and Applications	CRC Press, Taylor and Francis	Link
4.	Smart Education using Explainable Artificial Intelligence (XAI)	Artificial Intelligence and Machine Learning for Smart Community: Concepts and Applications	CRC Press, Taylor and Francis	Link

5.	Corrected components of Zernike Moments for improved content based image retrieval	Intelligent Systems and Applications in Computer Vision	CRC Press, Taylor and Francis	Link
6.	Discriminative features selection from Zernike moments for shape based image retrieval system	Intelligent Systems and Applications in Computer Vision	CRC Press, Taylor and Francis	Link
7.	Radial Moments for Image Retrieval	Handbook of Research on Advanced Concepts in Real-Time Image and Video Processing	IGI Global, USA	Link
8.	Recognition of Face Biometrics	Handbook of Research on Advanced Concepts in Real-Time Image and Video Processing	IGI Global, USA	Link

PhD Supervised

SNo.	Candidate Name	Thesis Title
1.	Parveen Kakkar	Detection and Mitigation of DDoS Attacks in Mobile AdHoc Networks

PG Dissertation Supervised

SNo.	Candidate Name	Dissertation Title
1.	Nargisdeep Kaur	Synthetic Data Generation for Smart Farming on the Basis of Agricultural Images by using Various Generative AI Models
2.	Krishma	Humanizing Machine: The role of ChatGPT in healthcare, education, and financial sectors
3.	Shahid-ul-Islam	Sentiment Analysis using Machine Learning Techniques
4.	Avishek Sinha	Big Data Analytics for Social Media
5.	Preeti	Placement Prediction of Pre Final Year Engineering Students
6.	Monika	Prediction and Analysis of Diabetic Data using Machine Learning Techniques
7.	Sonali Soni	Hybrid Intrusion Detection System Model by using Improved J48 & Improved K-means Clustering

Patents

Artificial intelligence enabled accident notifying device for vehicles.

Reviewer of Journals

1. Discover Artificial Intelligence (Springer)
2. Multimedia Systems (Springer)
3. The Journal of Super Computing (Springer)
4. Archives of Computational Methods in Engineering (Springer)
5. Knowledge Based Systems (Elsevier)
6. IET Computer Vision (Wiley)
7. Scientific Research and Essays (Exaly)
8. International Journal of Computer Applications in Technology (Inderscience)

Expert Talks Delivered

Sno.	Title	Year	Location
1.	Talk on International Day Against Violence And Bullying and Cyberbullying	3 rd November, 2022	Prasar Bharti, Jalandhar (DD National)
2.	Using ICT for Effective Educational Communication on Faculty Development Programme on "Paradigm Shift in Teaching Pedagogy Due to Covid-19"	24 th June, 2021	Lyallpur Khalsa College, Technical Campus, Jalandhar

Administrative Responsibilities

1. Board of Studies Coordinator (Computer Applications), IKGPTU, Jalandhar since last 9 years.
2. NAAC Coordinator, Department of Computer Science & Engineering, IKGPTU, Jalandhar since last 9 years.
3. NIRF Coordinator, Department of Computer Science & Engineering, IKGPTU, Jalandhar since last 9 years.
4. NIRF Core Committee Member, IKGPTU, Jalandhar since last 6 years.
5. End Term Examination Superintendent, IKGPTU, Jalandhar.
6. End Term Examination Deputy Superintendent, IKGPTU, Jalandhar.

Faculty Development Programmes /Short Term Courses/Workshops /Seminars attended

SNo.	Course Name	Place	Duration
1.	NEP 2020 Orientation & Sensitization Programme	Regional Institute of Education, Mysuru	18-26 July, 2025
2.	Experiential Learning on Mobile Forensics	IKG Punjab Technical University, Kapurthala	20-24 January, 2025
3.	Machine Learning using Python, Natural Language Processing, and Python for Data Science	Infosys Springboard, Bengaluru	24-28 June, 2024
4.	86 th Online Refresher Course: Computer Science & Information Technology	MMTTC, Sardar Patel University, Vallabh, Vidyanagar	29 January 2024 to 11 February, 2024
5.	Refresher Course on ICT	MMTTC, University of Hyderabad, Hyderabad	7-19 March, 2022
6.	Blended Learning and Flipped Classroom	Vellore Institute of Technology, Vellore	18-22 January, 2021

7.	Artificial Intelligence and Machine Learning for Healthcare	College of Engineering, Pune	13-17 December, 2021
8.	Orientation Programmer-109	MMTTC, GNDU, Amritsar	11 February, 2020 to 02 March, 2020
9.	Rating/Accreditation as a Tool for Quality Improvement	GNDU, Amritsar	24 February, 2020
10.	Data Sciences	Central University of Kerala, Periya	14-18 December, 2020
11.	Machine and Deep Learning in Computer Vision	TEQIP-II Sponsored, NIT, Jalandhar	9-13 August, 2019
12.	Internet of Things	ATAL Academy FDP, AICTE, New Delhi	2-6 December, 2019
13.	Process of NAAC Accreditation	IKGPTU, Kapurthala	26 July, 2017
14.	Research Methodology and Tools for Data Analysis	DAV University, Jalandhar	26-30 July, 2016
15.	Recent Advances in Image and Natural Language Processing	TEQIP-II Sponsored, NIT, Jalandhar	30 May, 2016-3 June, 2016
16.	Recent Trends in Software Engineering and Knowledge Mining	TEQIP-II Sponsored, NIT, Jalandhar	1-5 June, 2015
17.	Data Analysis and Soft Computing	TEQIP-II Sponsored, NIT, Jalandhar	9-13 June, 2014