

## Profile Page



Name : Dr Renu Dhir

Designation : Professor

Department : Computer Science & Engg.

Qualification : PhD Computer Science and Engineering (Punjabi University Patiala)  
M Tech Computer Science (Thapar University Patiala)  
B Sc Engg. Electrical (Panjab University Chandigarh)

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### Research Interests :

Image Processing, Pattern Recognition, Information Security, Artificial Intelligence and Soft Computing

### Other Profile Links :

#### Google Scholar Link :

Dr Renu Dhir [Click Here](#)

### Journal Publications :

Year	Journal	Publication
2022	Applications of Machine Intelligence in Engineering	Kirti Sonkar, Rajneesh Rani, Renu Dhir, "Iris Recognition Using Transfer Learning of Inception V3"
2022	Arabian Journal of Geosciences	Monia Digra, Renu Dhir, Nonita Sharma, "Land use land cover classification of remote sensing images based on the deep learning approaches: a statistical analysis and review"
2022	International Journal of Image and Graphics	Rajneesh Rani, Renu Dhir, Deepti Kakkar, Nonita Sharma, "Script identification for printed and handwritten Indian documents: An empirical study of different feature classifier combinations"
2021	Applied Intelligence	Naveen Bilandi, Harsh K Verma, Renu Dhir, "hPSO-SA: hybrid particle swarm optimization-simulated annealing algorithm for relay node selection in wireless body area networks"
2021	Sustainable Computing: Informatics and Systems	Naveen Bilandi, Harsh K Verma, Renu Dhir, "Energy-efficient relay node selection scheme for sustainable wireless body area networks"
2021	Arabian Journal for Science and Engineering	Naveen Bilandi, Harsh K Verma, Renu Dhir, "An intelligent and energy-efficient wireless body area network to control coronavirus outbreak"
2021	Applications of Machine Intelligence in Engineering	Kirti Sonkar, Rajneesh Rani, Renu Dhir, "Iris Recognition Using Transfer Learning of Inception V3"

2021	Arabian Journal of Geosciences	Monia Digra, Renu Dhir, Nonita Sharma," Dr Renu Dhir [PDF] from researchgate.net Land use land cover classification of remote sensing images based on the deep learning approaches: a statistical analysis and review"
2021	International Journal of Image and Graphics	Rajneesh Rani, Renu Dhir, Deepti Kakkar, Nonita Sharma,"Script identification for printed and handwritten Indian documents: An empirical study of different feature classifier combinations"
2020	International Journal of Data Mining, Modelling and Management	Aarti, Geeta Sikka, Renu Dhir,"Grey relational classification algorithm for software fault proneness with SOM clustering"
2020	International Journal of Image and Graphics	Tanvi Arora, Renu Dhir," Geometric feature-based classification of segmented human chromosomes"
2020	CAAI Transactions on Intelligence Technology	Naveen Bilandi, Harsh K Verma, Renu Dhir,"AHP–neutrosophic decision model for selection of relay node in wireless body area network"
2020	Recent Advances in Computer Science and Communications (Formerly: Recent Patents on Computer Science)	Ishan Kumar, Renu Dhir, Gurpreet S Lehal, Sanjeev Kumar Sharma,"Design of dynamic morphological analyser for Hindi nouns using rule based approach"
2019	Int. Arab J. Inf. Technol.	Tanvi Arora, Renu Dhir,"A novel approach for segmentation of human metaphase chromosome images using region based active contours."
2019	International Journal of Intelligent Engineering Informatics	Aarti, Geeta Sikka, Renu Dhir,"Threshold-based empirical validation of object-oriented metrics on different severity levels"
2019	International Journal of Computational Systems Engineering	Aarti, Geeta Sikka, Renu Dhir,"Empirical validation of object-oriented metrics on cross-projects with different severity levels"
2019	International Journal of Intelligent Systems Design and Computing	Aarti, Geeta Sikka, Renu Dhir,"Regression-based software fault prediction using biogeography-based optimisation (R-BBO)"
2019	Multimedia Tools and Applications	Tanvi Arora, Renu Dhir,"A variable region scalable fitting energy approach for human Metaspread chromosome image segmentation'
2019	SN Applied Sciences	Naveen Bilandi, Harsh K Verma, Renu Dhir,"PSOBAN: a novel particle swarm optimization based protocol for wireless body area networks"
2019	EAI Endorsed Transactions on Pervasive Health and Technology	Naveen Bilandi, Harsh K Verma, Renu Dhir,"An Energy Efficient Health Monitoring System using Relay Node in Wireless Body Area Networks"
2017	AnKnowledge and information Systems, 36, 1-18	Tanvi Arora and Renu Dhir
2017	International Arab Journal of Information Technology, 16, 01	Tanvi Arora and Renu Dhir
2017	International Journal of Education and management Engineering, 3,35-42	Aarti,G Sikka and R Dhir, An Investigation on the metric threshold for fault -proneness
2017	IJACSA, 8(2), 403-402	Taqdir and Renu Dhir, IEEE , Face Recognition using SIFT Key with Optimal Features Selection Method
2017	International Journal of Multimedia Information Retrieval	Amandeep Kaur, Renu Dhir, Gurpreet Singh Lehal
2017	Journal of Information and Optimization Sciences	Gurdip Kaur, Renu Dhir, Maninder Singh
2017	Knowledge and Information Systems	Tanvi Arora, Renu Dhir
	AnKnowledge and information Systems, 36, 1-18	

## Conference Publications :

Year	Conference	Publication
2021	2021 International Conference on Artificial Intelligence and Smart Systems (ICAIS)	Sunil Kumar, Renu Dhir, Nisha Chaurasia, "Brain Tumor Detection Analysis Using CNN: A Review"
2021	2021 2nd International Conference on Secure Cyber Computing and Communications (ICSCCC)	Kamalpreet Kaur, Renu Dhir, Kuldeep Kumar, "Transfer Learning approach for analysis of epochs on Handwritten Digit Classification"
2021	2021 9th International Conference on Reliability, Infocom Technologies and Optimization (Trends and Future Directions)(ICRITO)	Nonita Sharma, Renu Dhir, " Dr Renu Dhir Fog computing: An overview of IoT applications with security issues and challenges"
2018	2018 First International Conference on Secure Cyber Computing and Communication (ICSCCC)	Naveen Bilandi, Harsh K Verma, Renu Dhir, "An energy efficient tdma based mac protocol for wireless body area networks"
2018	2018 First International Conference on Secure Cyber Computing and Communication (ICSCCC)	Varuni Garg, Renu Dhir, "Restoration of Image from Deterioration Using Image Inpainting"
2017	2017 Fourth International Conference on Image Information Processing (ICIIP)	Tanvi Arora, Renu Dhir, Manish Mahajan, "An algorithm to straighten the bent human chromosomes"

### Book/Chapter Publications :

Type	Title	Publisher	Authors	ISBN/ISS N No.	Year
	SSAMH – A Systematic Survey on AI-Enabled Cyber Physical Systems in Healthcare	Scrivener publishing	Kamalpreet Kaur, Renu Dhir, & Mariya Ouaisa		2022
	Iris Recognition Using transfer learning of Inception V3	CRC Press	Kirti Sonkar, Rajneesh Rani, Renu Dhir		2022
	A state of Art of emerging for medical cyber physical systems” in Cyber physical Systems: Research Issues and Challenges	CRC Press	Kamalpreet Kaur, Renu Dhir and Nonita		2021
Global	Software Module Clustering Using Bio-Inspired Algorithms	IGI Global	Kawal Jeet and Renu Dhir		2016
Global	A Comprehensive Study of Bayesian and Fuzzy Inference Approach to Assess Quality of the Software using Activity-Based Quality model	IGI Global	Kawaljeet, Nitin Bhatia and Renu Dhir		2013

### Research Projects :

Role	Project Type	Title	Funding Agency	From	To	Amount	Status	Co-Investigator
Co-Investigator	Research	Development of Robust Document Image Analysis and Bilingual Recognition System for Printed Gurmukhi and Roman Scripts	DST	2010	2015	53 Lakh	Complete	Renu Dhir

Co-Investigator	ISEA Project	ISEA	DIT	2015-2018	2018	36 Lakh	Ongoing	Renu Dhir and Harsh Verma
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### Events Organized :

Category	Type	Title	Venue	From	To	Designation
STC	National	Advances in Computer Science and Information Technology Trends (ACSITT)	NIT Jalandhar	02.01.2017	06.01.2017	Coordinator
STC	National	Recent Trends in Information Security (RTIS)	NIT Jalandhar	14-03-2019	18-03-2019	Coordinator
STC	National	Soft Computing: Theories and Applications in the Department of IT	NIT Jalandhar	14-09-202	18-09-2020	Coordinator
STC	National	Cloud of Things (CoT): Theoretical and Practical Implications	NIT jalandhar	10-08-2020	14-08-2020	Coordinator
Webinar	National	Recent Advancements in Information Technology		10-06-2020		
STC	National	Cyber Security	NIT jalandhar	28-07-2020	1-08-2020	Coordinator
STC	National	Cyber Security and Forensic	NIT Jalandhar	16-12-2021	20-12-2021	Coordinator
STC	National	Artificial Intelligence for IoT services in Cloud: Techniques & Applications	NIT Jalandhar	28-02-2022	4-03-2022	Coordinator
STC	National	Block chain assisted Federated Machine Learning for Securing Big Data Analytics and IoT	NIT Jalandhar	8-04-2022	12-04-2022	Coordinator

### PhD Supervised :

Scholar Name	Research Topic	Status	Year	Co-Supervisor
Mr. Ishan Kumar	Development of A Rule Based Grammar Checker for Hindi Sentences	Thesis Submitted	2022	Dr. G S lehal
Mr. Naveen Bilandi	Development of Energy Aware Routing Protocol for Wireless Body Area Network	Completed	2021	Dr. Harsh Verma
Ms. Aarti	Fault Prediction using Machine Learning Techniques	Completed	2019	Dr. Geeta Sikka
Mr. Rahul Malik	Computational Approaches for the analysis of satellite imageries of Himalayan glacier Image	Completed	2019	Dr. S.k. Mittal
Ms. Gurdip Kaur	Frame work to detect , analyze and report zero –day malware with minimum false positives	Completed	2018	Dr. Maninder
Ms. Taqdir	Image Processing For Face recognition	Completed	2018	

Ms. Pooja	Recognition of News Ticker Gurumukhi Text from Video Images	Completed	2018	
Ms Tanvi	A Novel approach for Karyotype Generation from Chromosome Images	Complete	2018	-
Ms Taqdir	Image Processing for Face Recognition	Complete	2018	-
Ms Gurdip Kaur	Frame work to detect, analyse and report zero day malware with minimum false positives	Complete	2018	Dr Maninder
Ms Pooja	Recognition of News Ticker Gurmukhi Text from Video Images	Report submitted	2018	-
Ms Aarti	An Investigation on the metric threshold for fault-proneness	Thesis submitted	2018	Dr Geeta Sikka
Ms Kawaljeet	Nature Inspired Algorithms for Software Clustering	Complete	2017	-
Mr Ishan Kumar	Development of a Rule Based Grammar Checker for Hindi Sentences	Comp Submitted	2017	Dr G S Lehal
Vineet Mehan	A Noval Multiquadrant integrated and secure approach of re-watermarking and fingure printing for colored digital Images	Complete	2016	Dr Y S Brar
Rajneesh rani	Script Identification for printed bilingual ( Gurmukhi/English) Documents	Complete	2015	Dr g S Lehal
Mr. Raman	Enhanced Threshold Proxy Signature Scheme based on RSA for Non Signers	Complete	2014	Dr Harsh Verma

## Patents :

Name	Reg./Ref. No.	Date of Award/Filling	Organization	Status
Design of Dynamic Morphological Analyzer for Hindi Nouns Using Rule Based Approach	10.2174/221327591266 6190119161433	1/12/2020	Bentham Science Publishers	Granted

## Admin. Responsiblities :

Position Held	Organization	From	To
Presiding Officer of Women cell and ICC wef 09.02.2018	NIT Jalandhar	09.02.2018	till date
Nodal Officer PMSSS	NIT Jalandhar	30.01.2018	till date
Head Of Department	Computer Science Engineering	September 2013	April 2016
Member of committee to start a new UG and PG program	Data Science and Artificial Intelligence	March 2021	August 2021
Co- Investigator	ISEA Project	2013	2022
Faculty Advisor PACE	Professional Associates of Computer Engineers, NIT Jalandhar	Since 2007	till date
Member Library Committee		1999	2001
Member faculty advisor	Projection club, NIT Jalandhar	2005	2007
Executive member	Faculty Club	October 2010	October 2018
Warden Girl's hostel	NIT Jalandhar	March 2011	2013
Nodal Officer	PMSSS	30th January 2018	