

Faculty Profile

Faculty Name	Dr. Pardeep Singla
Designation	Assistant Professor
Qualification	Ph.D, M.Tech, B.E
Email	pardeepsingla.ece@piet.co.in
Area of Interest	Artificial Intelligence, Predictive Analysis
Work Experience (Total)	13 Years
<ul style="list-style-type: none"> • Teaching 	13
<ul style="list-style-type: none"> • Research 	0
<ul style="list-style-type: none"> • Industry 	0
<ul style="list-style-type: none"> • Others 	0
Courses taught at Diploma/ Post Diploma/ Under Graduate/ Post Graduate/ Post Graduate Diploma Level	Microprocessor & Interfacing, Digital Electronics, MEMS, Signal Processing
Membership of Professional Bodies	LM-ISTE, LM-ISR
Research Publications	
<ul style="list-style-type: none"> • Research Papers UGC-CARE 	10
<ul style="list-style-type: none"> • Research Papers SCOPUS 	15
<ul style="list-style-type: none"> • Research Papers WoS/SCI/ABDC 	07
<ul style="list-style-type: none"> • List of Publications 	<ul style="list-style-type: none"> • <i>“A point and interval forecasting of solar irradiance using different decomposition-based hybrid models”</i>, Earth Science Informatics, Vol. 16, pp 2223-2240, 2023, SCI Indexed. • <i>“A comprehensive review and analysis of solar forecasting techniques”</i>, Frontiers in Energy, Vol. 16, pp 187-223, 2022, SCIE indexed. • <i>“An ensemble method to forecast 24-hr ahead solar irradiance using wavelet decomposition and BiLSTM deep learning network”</i>, Earth Science Informatics, Vol. 15, pp 291-306, 2022, SCIE indexed. • <i>“Forecasting of Market Clearing Volume</i>

	<p><i>Using Wavelet Packet-Based Neural Networks with Tracking Signals</i>”, <i>Energies</i>, Vol.14 (19):6065. SCIE indexed.</p> <ul style="list-style-type: none"> • “<i>A hybrid Solar Irradiance forecasting using full wavelet packet decomposition and Bi-directional long short-term memory (BiLSTM)</i>”, <i>Arabian Journal of Science & Engineering</i>, Vol. 47, pp 14185-14211, 2022, SCIE indexed. • “<i>A dual decomposition with error correction strategy based improved hybrid deep learning model to forecast solar irradiance</i>”, Vol. 44(1), pp 1583-1607, <i>Energy sources, Part-A: Recovery, Utilization, and Environmental effects</i>, SCI indexed. • “<i>An integrated framework of robust local mean decomposition and bidirectional long short-term memory to forecast solar irradiance</i>”, <i>International Journal of Green Energy</i>, Vol. 20 (10), pp 1073-1085, 2022, SCIE indexed. • “<i>Review of different error metrics: a case of solar forecasting</i>”, <i>AIUB journal of science and engineering</i>. Vol. 20 (4), pp-158-165, SCOPUS indexed. • “<i>Design of Reversible Squaring Circuit for Low Power Digital Signal Processing</i>”, <i>Journal of Engineering Science & Technology Review</i>. Vol. 7(3) pp-50-54, SCOPUS, ACS Indexed. • “<i>Performance Evaluation of Learning based Models for Structural & Endogenous Datasets for Indian Locations</i>”, <i>Distributed Generation & Alternative Energy Journal</i>, Accepted, SCOPUS indexed. • “<i>A Cost- Effective Design of Reversible Programmable Logic Array</i>”, <i>Int’ J. of Computer Application</i>, Vol.41(15), pp 41-46, Published by Foundation of computer
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science, New York, USA.

- “*DSTN (Distributed Sleep Transistor Network) for Low Power Programmable Logic Array*, International Journal of computer applications, May-2012 Edition, Vol.45(17), pp 31-37, Published by Foundation of computer science, New York, USA.
- “*An Improved Structure of Reversible Adder and Subtractor*,” International Journal of Electronics and Computer Science Engineering (IJECS), Vol.2 (2) pp.712-718.
- “*Power Gating Structure of Reversible Programmable Logic Array*”, Electrical & Computer Engineering: An International Journal (ECIJ) Volume 4, Number 3, September 2015 .
- “*Home load simulation using wireless ZIGBEE*” Published in Journal of Emerging Technologies and Innovative Research, Vol. 1(6), pp 416-418
- “*Transistor Implementation of Reversible gate by using Novel 3- Transistor XOR gate*”, Published in Global Journal of Advance Research, Vol. 2 Issue 1,pp 64-69.

- “*Data Decomposition Strategy to Improve Solar Forecasting Accuracy*”, 9th IEEE India International Conference on Power Electronics (IICPE), 2023, DCRUST Murthal, 2023.
- “*Solar Irradiance forecasting using Elman neural network with different training algorithms*”, International Conference on sustainable development in technology for 4th industrial revolution, at Port city international university, Bangladesh, ISBN:

978-984-34-9542-6.

- *“Prediction System for Cardiovascular disease using Artificial Intelligence”*, 3rd National Conference on medical instrumentation, biomaterials and signal processing, at DCRUST Murthal, ISBN 978-93-881812-3-5
- *“A Study of soft computing techniques: Case of time series forecasting”*, International Conference on History and Development of Mathematics, at MDU Rohtak.
- *“Solar Tracking System Using Stepper Motor”*, International conference on Micro-electronics, Communication and Computation, SAN DIEGO, USA
- *“Reversible Programmable Logic Array using Feynman and MUX gate for industrial applications*, Published in 1st International Conference on Innovations and Advancement in information and communication technology, vol III, pp 411-419. ISBN 978-93-81583-34-0
- *“Towards the Solution of Power Dissipation in Electronics Systems through Thermodynamics”* Published National Conference on Emerging Trends in Electrical, Instrumentation & Communication Engineering, pp 300-303. ISBN 978-93-81583-35-7
- *“A New Approach of Improving CFA Image for Digital Camera’s”*, Published in National Conference on Emerging Trends in Electrical, Instrumentation & Communication Engineering , pp 256-259. ISBN 978-93-81583-35-7
- *“An Optimized Design of Reversible Sequential Digital Circuits”* Published in National Conference on "Emerging Trends

	in Computer Science and Communication Technology.
Book and Chapter Publications	
• Books Authored published by International Publishers	0
• Books Authored published by National Publishers	0
• Publication of Chapter in Edited Books	04
• Editor of Book by International Publishers	0
• Editor of Book by National Publishers	0
• Translation Work of Book	0
• List of Book and Chapter Publications	<ul style="list-style-type: none"> • <i>“Solar Irradiation forecasting by long short-term memory using momentum-based optimizers”</i>, Springer Book-Studies in Infrastructure and Control, SCOPUS indexed. • <i>“One hour ahead solar irradiation forecast by deep learning network using meteorological variables”</i>, Springer LNEE -Control and Measurement Applications for Smart Grid, SCOPUS indexed. • <i>“Different Optimizers based Gated Recurrent Unit network to Forecast One Step Ahead Solar Irradiance”</i>, Springer LNEE - Recent Advances in Power Systems, SCOPUS indexed. • <i>“Different normalization techniques as data preprocessing for one step ahead forecasting of solar GHI”</i>, Elsevier Book Chapter- Artificial Intelligence for Renewable Energy systems, SCOPUS indexed.
Patents	
• Published	0

• List of published patent(s)	0
• Filed	0
• List of filed patent(s)	0
PhD Guidance	
• Degree Awarded	0
• Thesis Submitted	0
M.Tech. Guidance	
• Degree Awarded	1
• Thesis Submitted	0
Research Project	
• List of Research project	0
Consultancy	
• List of Consultancy	0
Awards & Honours	
• List of Awards & Honours	0
Invited lectures / Resource Person/ paper presentation in Seminars/ Conferences/full paper in Conference	
• International (Abroad)	01
• International (Within Country)	0
• National	0
• List of published papers	Chaired the workshop & Keynote speaker in International Conference on Smart Electrical Grid and Renewable Energy 2023, Changsha China.
Organizing National Conference/ International Conference/ FDP/STTP	
• List of Conference/FDP/STTP committee	
Social Contributions and Sports	01

<ul style="list-style-type: none">• List of Social Contributions and Sports	Working as Mentor-for –Change for ATL Labs (SM Hindu Sr. Sec. School, Sonipat) by NITI Ayog, Govt. of India.
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