

Faculty Profile

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| 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> |

Using Wavelet Packet-Based Neural Networks with Tracking Signals”, *Energies*, Vol.14 (19):6065. **SCIE indexed.**

- “*A hybrid Solar Irradiance forecasting using full wavelet packet decomposition and Bi-directional long short-term memory (BiLSTM)*”, *Arabian Journal of Science & Engineering*, Vol. 47, pp 14185-14211, 2022, **SCIE indexed.**
- “*A dual decomposition with error correction strategy based improved hybrid deep learning model to forecast solar irradiance*”, Vol. 44(1), pp 1583-1607, *Energy sources, Part-A: Recovery, Utilization, and Environmental effects*, **SCI indexed.**
- “*An integrated framework of robust local mean decomposition and bidirectional long short-term memory to forecast solar irradiance*”, *International Journal of Green Energy*, Vol. 20 (10), pp 1073-1085, 2022, **SCIE indexed.**
- “*Review of different error metrics: a case of solar forecasting*”, *AIUB journal of science and engineering*. Vol. 20 (4), pp-158-165, **SCOPUS indexed.**
- “*Design of Reversible Squaring Circuit for Low Power Digital Signal Processing*”, *Journal of Engineering Science & Technology Review*. Vol. 7(3) pp-50-54, **SCOPUS, ACS Indexed.**
- “*Performance Evaluation of Learning based Models for Structural & Endogenous Datasets for Indian Locations*”, *Distributed Generation & Alternative Energy Journal*, Accepted, **SCOPUS indexed.**
- “*A Cost- Effective Design of Reversible Programmable Logic Array*”, *Int’ J. of Computer Application*, Vol.41(15), pp 41-46, Published by Foundation of computer

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 (IJECSE), 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

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| | 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 |

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| • 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 |

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| <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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