# Dr. M. MADHIARASAN



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**Address: No: 14, Uzhaippaali Street, Annai Anjugam Nagar, Ayapakkam, Chennai, TamilNadu, Pincode- 600077, India**.

## PERSONAL PROFILE

**Mother's Name:** Mrs.M.VATHSALADEVI

**Father's Name :** Mr.G.MANOHARAN

**Marital Status :** Single

**Gender :** Male

**Languages Known:** English, Tamil

**Nationality :** Indian

**Hobbies :** Gardening, Essay Writing, Poem Writing.

## OBJECTIVE

To pursue a career as a Faculty/Postdoc/Research Scientist in an institution that provides personal, professional, and research development opportunities and contributes to society.

## EDUCATIONAL PROFILE

- **Doctor of Philosophy Ph.D. - Electrical Engineering** in Anna University, Chennai, in the year 2018.

- **M. E - ELECTRICAL DRIVES AND EMBEDDED CONTROL** in Anna University, Regional Centre Coimbatore, With **CGPA 8.403** passed in the year 2013.

- **B. E - ELECTRICAL AND ELECTRONICS ENGINEERING** from Anna University, Chennai in Jaya Engineering College, Thiruninravur with **80.45%** passed in the year 2010.

- **H.S.C -** Govt Higher Secondary School, K.G Kandigai with **79.2%** passed in the year 2006.

- **S.S.L.C -** Corley Higher Secondary School, Tambaram with **85.2%** passed in the year 2004.

## COMPUTER PROFICIENCY

**Hardware Language :** VHDL

**Microprocessor : INTEL** 8085

**Microcontroller : INTEL** 8051

**Language known :** C, C++

**CAD Tools : MATLAB, Xilinx, Keil and Python**

## FIELD OF INTEREST

- Power Semiconductor Drives
- Power Electronics
- Electrical Machines
- Soft Computing Techniques
- Power Electronics for Renewable Energy Systems
- Power System Operation & Control
- Wind Energy Conversion System
- Embedded System
- RTOS

## RESEARCH INTEREST

- Renewable Energy Systems
- Artificial Intelligence
- Artificial Neural Network
- Machine Learning
- Deep Learning
- Optimization
- Soft Computing
- Modeling and Simulation
- Computer Vision and Pattern Recognition
- IoT

## ACADAMIC PROJECT

UG PROJECT TITLE: **"SUPERVISORY CONTROL OF 110 KV UNMANNED SUBSTATION USING SCADA"**

PG PROJECT TITLES:

PHASE I PROJECT: **"LINE WALKING ROBOT FOR INSPECTION OF POWER TRANSMISSION LINES AND OBSTACLE NAVIGATION"**

PHASE II PROJECT: "*LINE WALKING ROBOT FOR INSPECTION OF POWER TRANSMISSION LINES AND OBSTACLE AVOIDANCE*"

Ph.D. TITLE: "*CERTAIN ALGEBRAIC CRITERIA FOR DESIGN OF HYBRID NEURAL NETWORK MODELS WITH APPLICATIONS IN RENEWABLE ENERGY FORECASTING*"

## EXPERIENCE

- Worked as a Lecturer in Madras Institute of Technology, Kodambakkam, 2010 September to 2011 August.

- Taken Class for B.E (Part-Time) in Anna University, Regional Centre, Coimbatore.

- Worked as an assistant professor in Vi Institute of Technology, Chengalpattu, 2014 January to 2014 June.

- Worked as a Part-time faculty at the Anna University Regional Campus, Coimbatore.

- Over 4 years of experience in research (Full-time Research Scholar).

- Worked as an assistant professor in Bharat Institute of Engineering and Technology, Hyderabad, From August 2018 to July 2020.

- Worked as a postdoctoral fellow at Indian Institute of Technology Roorkee (IITR), From December 2020 to April 2022.

- Worked as a postdoctoral fellow at the Transilvania University of Brașov (UNITBV), From May 2022 to April 2023.

- Working as a Research and Development Coordinator and Associate Professor, at Dhanalakshmi Srinivasan College of Engineering and Technology, From June 2023 to till date.

## REFEREED, ARCHIVAL PUBLICATIONS

**PATENT**

**Inventor: Dr. M. Madhiarasan,** Title of the Invention: 'IOT BASED SOLAR POWERED VERSATILE MOVING ROBOT TO ENHANCE SECURITY AND SURVEILLANCE', Application No: 202041032025, Date: 27/07/2020.

## Book Chapter

- **Manoharan Madhiarasan**, Brahim Belmahdi, and Mohamed Louzazni. 2023. 'A Study of Four Types of Neural Networks with an Error Correction Approach Applied to Predict Wind Speed', *In: Moldovan, L., Gligor, A. (eds) The 16th International Conference Interdisciplinarity in Engineering. Inter-Eng 2022. Lecture Notes in Networks and Systems,* vol. 605, pp. 682–695, Springer, Cham. Print ISBN:978-3-031-22374-7, Online ISBN: 978-3-031-22375-4. https://doi.org/10.1007/978-3-031-22375-4_54.

- Mohamed Louzazni, Brahim Belmahdi, and **Manoharan Madhiarasan**. 2023. 'Modeling and Analysis of the Effect of Current-Voltage in the Solar Cell Dynamic Parameters', *In: Moldovan, L., Gligor, A. (eds) The 16th International Conference Interdisciplinarity in Engineering. Inter-Eng 2022. Lecture Notes in Networks and Systems,* vol. 605, pp. 696–705, Springer, Cham. Print ISBN:978-3-031-22374-7, Online ISBN: 978-3-031-22375-4. https://doi.org/10.1007/978-3-031-22375-4_55.

- Brahim Belmahdi, **Manoharan Madhiarasan**, Mohamed Louzazni, and Abdelmajid El Bouardi. 2023. 'Forecasting Solar Radiation Using Machine Learning Method: New Optimization Algorithm', *In: Moldovan, L., Gligor, A. (eds) The 16th International Conference Interdisciplinarity in Engineering. Inter-Eng 2022. Lecture Notes in Networks and Systems,* vol. 605, pp. 706–717, Springer, Cham. Print ISBN:978-3-031-22374-7, Online ISBN: 978-3-031-22375-4. https://doi.org/10.1007/978-3-031-22375-4_56.

## INTERNATIONAL JOURNALS

- **Manoharan Madhiarasan**. 2023. 'Implementation of IoT-based energy monitoring and automatic power factor correction system', *Thermal Science and Engineering*, vol. 6, no. 1, pp. 13-19, http://dx.doi.org/10.24294/tse.v6i1.1996.

- **Manoharan Madhiarasan,** Mohamed Louzazni, and Brahim Belmahdi. 2023. 'Statistical Analysis of Novel Ensemble Recursive Radial Basis Function Neural Network Performance on Global Solar Irradiance Forecasting', *Journal*

*of Electrical and Computer Engineering*, vol. 2023, Article ID 2554355, pp. 1-10, https://doi.org/10.1155/2023/2554355.

➢ **Manoharan Madhiarasan,** Daniel T. Cotfas, and Petru A. Cotfas. 2022. 'Black widow optimization algorithm used to extract the parameters of photovoltaic cells and panels', Mathematics, vol. 11, no. 4: 967, pp. 1-24, https://doi.org/10.3390/math11040967.

➢ **Manoharan Madhiarasan**, Daniel T. Cotfas, and Petru A. Cotfas. 2022. 'Barnacles Mating Optimizer Algorithm to Extract the Parameters of the Photovoltaic Cells and Panels', Sensors, vol. 22, no. 18: 6989, pp. 1-31, https://doi.org/10.3390/s22186989.

➢ **Manoharan Madhiarasan**. 2022. 'Renewable Energy Systems: Need, Challenges, and Research Scope'. Acta Scientific Computer Sciences, vol. 4, no. 9, pp. 09-10.

➢ **Manoharan Madhiarasan** and Mohamed Louzazni. 2022. 'Combined Long Short-Term Memory Network-based Short Term Prediction of Solar Irradiance', International Journal of Photoenergy. Article ID. 1004051, vol. 2022, pp. 1-19, DOI: https://doi.org/10.1155/1970/1004051.

➢ **Madhiarasan, M**. 2022. 'Enriched global horizontal irradiance prediction using novel ensemble improved backpropagation neural network', ITM Web Conf, Section. Computer Technology and System Design, Article Number. 01060, vol. 23, pp. 1-8, DOI: https://doi.org/10.1051/itmconf/20224501060.

➢ **Madhiarasan, M** and Partha Pratim Roy. 2022. 'Hybrid Transformer Network for Different Horizons-based Enriched Wind Speed Forecasting', arXiv preprint arXiv: 2204.09019, DOI: https://doi.org/10.48550/arXiv.2204.09019.

➢ **Madhiarasan, M** and Partha Pratim Roy. 2022. 'A Comprehensive Review of Sign Language Recognition: Different Types, Modalities, and Datasets', arXiv preprint arXiv:2204.03328, DOI: https://doi.org/10.48550/arXiv.2204.03328.

➢ **Madhiarasan, M** and Mohamed Louzazni. 2022. 'Analysis of Artificial Neural Network: Architecture, Types, and Forecasting Applications', *Journal of Electrical and Computer Engineering*, vol. 2022, Article ID. 5416722, pp.1-23. DOI: https://doi.org/10.1155/2021/5416722.

- **Madhiarasan, M**. 2021. 'Short-Term Wind Speed Forecasting Using Meta Learning-based Elman Neural Network'. *Journal of Physics: Conference Series*, vol. 2068, no. 012045, pp. 1-8. DOI:10.1088/1742-6596/2068/1/012045.

- **Madhiarasan, M** and Mohamed Louzazni. 2021. 'Different Forecasting Horizons Based Performance Analysis of Electricity Load Forecasting Using Multilayer Perceptron Neural Network', Forecasting, vol. 3, no. 4, pp. 804-838. DOI: https://doi.org/10.3390/forecast3040049.

- **Madhiarasan, M.,** Mohamed Louzazni., and Partha Pratim Roy. 2021. 'Novel Cooperative Multi-Input Multilayer Perceptron Neural Network Performance Analysis with Application of Solar Irradiance Forecasting', *International Journal of Photoenergy*, vol. 2021, Article ID. 7238293, pp.1-24. DOI: https://doi.org/10.1155/2021/7238293.

- **Madhiarasan, M.** 2021. 'Long-Term Wind Speed Prediction using Artificial Neural Network-Based Approaches', *AIMS Geosciences*, vol. 7, no. 4, pp. 542-552. DOI: 10.3934/geosci.2021031

- **Madhiarasan, M.** 2021. 'Design and development of IoT based solar powered versatile moving robot for military application', *International Journal of System Assurance Engineering and Management*, vol. 12, no.3, pp. 437-450, DOI: 10.1007/s13198-021-01089-9.

- **Madhiarasan, M.,** Tipaldi, M., and Siano, P. 2020. 'Analysis of Artificial Neural Network Performance Based on Influencing Factors for Temperature Forecasting Applications', *Journal of High Speed Networks*, vol. 26, no. 3, pp. 209-223, DOI: 10.3233/JHS-200639.

- **Madhiarasan, M.,** 2020. 'Accurate prediction of different forecast horizons wind speed using a recursive radial basis function neural network'. *Protection and Control of Modern Power Systems*, vol. 5, no. 22, pp. 1-9. https://doi.org/10.1186/s41601-020-00166-8.

- **Madhiarasan, M.,** T Keerthana, Md Shakeel, S Rakesh, and R Gopal 2019. 'Modeling and Implementation IoT based Transmission Line Monitoring, Protection and Control'. *Water and Energy International Journal*, vol. 62, no. 5, pp. 35-39.

- **Madhiarasan M** and Deepa SN 2018, 'Determination of Adequate Hidden Neurons in Combo Neural Network Using New Formulation and Fine Tuning with IMGWOA for Enrich Wind-Speed Forecasting', *International Journal of Applied Research on Information Technology and Computing*, vol. 9, no. 1, pp. 89-101.

- **Madhiarasan M** and Deepa SN 2018, 'A Novel Method to Select Hidden Neurons in ELMAN Neural Network for Wind Speed Prediction Application', *WSEAS Transactions on Power Systems*, vol. 13, pp. 13-30.

- **Madhiarasan M** and Deepa SN 2017, 'Comparative Analysis on Hidden Neurons Estimation in Multi Layer Perceptron Neural Networks for Wind Speed Forecasting', *Artificial Intelligence Review*, vol. 48, no. 4, pp. 449-471, DOI: 10.1007/s10462-016-9506-6.

- **Madhiarasan M** and Deepa SN 2017, 'A New Hybridized Optimization Algorithm to Optimize Echo State Network for Application in Solar Irradiance and Wind Speed Forecasting', *World Applied Sciences Journal*, vol. 35, no. 4, pp. 596-614.

- **Madhiarasan M** and Deepa SN 2017, 'Review of Forecasters Application to Solar Irradiance Forecasting', *International Journal of Scientific Research in Computer Science, Engineering and Information Technology*, vol. 2, no. 2, pp. 26-30.

- **Madhiarasan M** and Deepa SN 2016, 'A Novel Criterion to Select Hidden Neuron Numbers in Improved Back Propagation Networks for Wind Speed Forecasting', *Applied Intelligence*, vol. 44, no. 4, pp. 878-893.

- **Madhiarasan M** and Deepa SN 2016, 'Deep Neural Network Using New Training Strategy Based Forecasting Method for Wind Speed and Solar Irradiance Forecast', *Middle-East Journal of Scientific Research*, vol. 24, no.12, pp. 3730-3747.

- **Madhiarasan M** and Deepa SN 2016, 'Precisious Estimation of Solar Irradiance by Innovative Neural Network and Identify Exact Hidden Layer Nodes through Novel Deciding Standard', *Asian Journal of Research in Social Sciences and Humanities*, vol. 6, no. 12, pp. 951-974.

- **Madhiarasan M** and Deepa SN 2016, 'ELMAN Neural Network with Modified Grey Wolf Optimizer for Enhanced Wind Speed Forecasting', *Circuits and Systems*, vol. 7, no. 10, pp. 2975-2995.

- **Madhiarasan M** and Deepa SN 2016, 'New Criteria for Estimating the Hidden Layer Neuron Numbers for Recursive Radial Basis Function Networks and Its Application in Wind Speed Forecasting', *Asian Journal of Information Technology*, vol. 15, no. 21, pp. 4377-4391.

- **Madhiarasan M** and Deepa SN 2016, 'Performance Investigation of Six Artificial Neural Networks for Different Time Scale Wind Speed Forecasting in Three Wind Farms of Coimbatore Region', *International Journal of Innovation and Scientific Research*, vol. 23, no. 2, pp. 380-411.

- **Madhiarasan M** and Deepa SN 2016, 'Application of Ensemble Neural Networks for Different Time Scale Wind Speed Prediction', *International Journal of Innovative Research in Computer and Communication Engineering*, vol. 4, no. 5, pp. 9610-9617.

- **Madhiarasan M** and Deepa SN 2016, 'Long-Term Wind Speed Forecasting using Spiking Neural Network Optimized by Improved Modified Grey Wolf Optimization Algorithm', *International Journal of Advanced Research*, vol. 4, no. 7, pp. 356-368.

- **Madhiarasan M** and Deepa SN 2016, 'Comprehensive Study of Various Forecasting Techniques for Forecast of Wind Speed in the Field of Wind Energy System', *TIDEE (Teri Information Digest on Energy and Environment)*, vol. 15, no. 4, pp. 439-457.

**INTERNATIONAL CONFERENCE**

- **Manoharan Madhiarasan**, Daniel T. Cotfas, and Petru A. Cotfas. 2022. Medium Term Forecasting of Global Horizontal Solar Radiation in Brasov Using Multivariate Transformer, *2022 International Symposium on Electronics and Telecommunications (ISETC)*, Timisoara, November 10-11, 2022, pp. 1-4, doi: 10.1109/ISETC56213.2022.10010057.

- Daniel T. Cotfas, Petru A. Cotfas, Alexandre Rekeraho, and **Manoharan Madhiarasan**. 2022. Photovoltaic Mini-Panel and Thermoelectric Generator

Under Concentrated Light, *2022 International Symposium on Electronics and Telecommunications (ISETC)*, Timisoara, November 10-11, 2022, pp. 1-4, doi: 10.1109/ISETC56213.2022.10010280.

➢ Brahim Belmahdi, **Manoharan Madhiarasan**, Mohamed Louzazni, and Abdelmajid El Bouardi, 'Forecasting Solar Radiation Using Machine Learning algorithms: New optimization method', *The 16th International Conference Interdisciplinarity in Engineering - Inter-Eng 2022*, Romania, October 06-07, 2022.

➢ Mohamed Louzazni, Brahim Belmahdi, and **Manoharan Madhiarasan**, 'Modeling and studying the effect of current and voltage in the solar cell dynamic parameters', *The 16th International Conference Interdisciplinarity in Engineering - Inter-Eng 2022*, Romania, October 06-07, 2022.

➢ **Manoharan Madhiarasan**, Brahim Belmahdi, and Mohamed Louzazni, 'A Study of Four Types of Neural Networks with an Error Correction Approach Applied to Predict Wind Speed', *The 16th International Conference Interdisciplinarity in Engineering - Inter-Eng 2022*, Romania, October 06-07, 2022.

➢ **Madhiarasan M** and Mohamed Louzazni, 'Statistical Analysis of Novel Feed Forward Neural Networks Performance on Global Solar Irradiance Forecasting', *Second international conference on Mechanics, Materials, and Energy (MME2022)*, in the National School of Applied Sciences (ENSA) of El Jadida, Morocco, March 15-17, 2022.

➢ **Madhiarasan M**, 'Enriched Global Horizontal Irradiance Prediction Using Novel Ensemble Improved Backpropagation Neural Network', *2021 International Conference on Informatics, Networking and Intelligent Computing (INIC2021)*, in Beijing, China, September 26-27, 2021.

➢ **Madhiarasan M**, 'Short-Term Wind Speed Forecasting Using Meta Learning-based Elman Neural Network', *2021 International Conference on Artificial Intelligence, Big Data and Mechatronics (AIBDM2021)*, in Guangzhou, China, during September 17-18, 2021.

➢ **Madhiarasan M**, 'Line Walking Robot for Inspection of Power Transmission Line and Obstacle Avoidance', *Second International Conference on Electrical*

*and Electronics Engineering and Technology (ICEEET)*, Muthayammal Engineering College, Rasipuram, Tamil Nadu, India, pg no.: 641-646, 2013.

## NATIONAL CONFERENCE

➤ **Madhiarasan M**, 'Line Walking Robot for Inspection of Power Transmission Line and Obstacle Navigation', *National Conference on Green Energy (NCGE 2013*), R.M.D. Engineering College, Kavaraipettai, Tamil Nadu, India, pg no: 206-210, 2013.

## PROJECT GUIDANCE

### Under Graduate

### Thesis Title

➤ Modeling and Implementation of IoT-Based Transmission Line Monitoring, Protection and Control.

➤ Design and Development of IoT-Based Solar Powered Versatile Moving Robot for Military Application.

➤ Implementation of IoT based Energy Monitoring System and Automatic Power Factor Correction.

### Mini Project Title

➤ MATLAB/Simulink based Performance Analysis of Asynchronous Generator Fed from RL Load with AC/DC/AC Converter.

### ICT Video Lecture YouTube Channel:

https://www.youtube.com/channel/UCTZT7Iz3V7e9LoWQV02KsTQ?view_as=subscriber

## WORKSHOPS/SEMINARS/CONFERENCE ORGANIZED

➤ CoCoordinator of AICTE Training And Learning (ATAL) Academy Sponsored Five Days Faculty Development Programme on "Artificial Intelligence for Computer Vision (Advanced)" from 26th to 30th July, 2021 Organized by Department of Computer Science and Engineering, In Association with AICTE ATAL, Indian Institute of Technology, Roorkee (IITR).

- CoCoordinator of AICTE Training And Learning (ATAL) Academy Sponsored Five Days Faculty Development Programme on "Artificial Intelligence for Computer Vision (Elementary)" from 12th to 16th July, 2021 Organized by Department of Computer Science and Engineering, In Association with AICTE ATAL, Indian Institute of Technology, Roorkee (IITR).

- Convener of Three Days National Workshop on "How to Draft Effective Scientific Publications, Patents and Patent Filing" on 2nd to 4th July, 2020 Organized by Department of Electrical and Electronics Engineering, Research and Development Cell, In Association with IEI & ISTE Chapter, Bharat Institute of Engineering and Technology, Hyderabad.

- Convener of One Day Seminar on "Field Based Research For Industrial Growth" on 23rd October 2019 organized by Research and Development Cell, Department of Electrical and Electronics Engineering, Bharat Institute of Engineering and Technology, Hyderabad.

- Convener of Two Days Hands-on Workshop on "Electrical Switchgear and its Application" on 18th and 19th December 2019 organized by Research and Development Cell, Department of Electrical and Electronics, Bharat Institute of Engineering and Technology, Hyderabad with Association with dbson Universal Power Controls, Tumkur.

- Publication Chairs, 2021 International Conference on Artificial Intelligence, Big Data and Mechatronics (AIBDM2021), which will take place in Guangzhou, China, during September 17-18, 2021.

- Technical Program Committees, The 4th International Conference on Physics and Engineering Mathematics (ICPEM2023), 2023.

- Technical Program Committees, 2021 International Conference on Green Energy, Environment and Computer Application (GEECA2021), 2021.

- Technical Program Committees, 2021 International Conference on New Energy, Power and Environmental Engineering (NEPEE2021), 2021.

- Technical Program Committees, 2021 International Workshop on Environmental Science and Renewable Energy Engineering (ESREE2021), 2021.

- Technical Program Committee Member, 2021 International Conference on Environmental, Civil and Materials Science (ICECMS2021), 2021.

- Technical Program Committee Member, 2021 3rd International Conference on Electrical and Electronic Engineering (EEE2021), 2021.

- Technical Program Committee Member, 2020 2nd International Conference on Computer, Communications and Mechatronics Engineering (CCME2020).

- Technical Program Committee Member, 2020 International Conference on New Energy, Power and Environmental Engineering (NEPEE2020), 2020.

- Technical Program Committee Member, 2020 2nd International Conference on Advanced Material Research and Processing Technology (AMRPT2020), 2020.

- Technical Program Committee Member, International Workshop on Materials Science and Mechanical Engineering (IWMSME 2017), 2017.

- International Scientific Committees, International Conference on Informatics, Networking and Intelligent Computing (INIC2021), 2021.

- International Scientific Committees, International Conference on Mathematics, Big Data and Intelligent Computing (MBDIC2021), 2021.

- International Scientific Committees, International Conference on Control, Automation and Intelligent Computing (CAIC2021), 2021.

- International Scientific Committees, International Conference on Computer, Communications and Mechatronics Engineering (CCME2021), 2021.

- International Scientific Committees, International Conference on Cloud Computer, IoT and Intelligence System (CCIIS2021), 2021.

- International Scientific Committees, International Conference on Big data, Wireless Communication and Signal Processing (BDWCSP2020), 2020.

- International Scientific Committees, International Conference on Environment, Coastal Research and Social Application (ECRSA2020), 2020.

- International Scientific Committees, 2020 International Conference on Modeling, Big Data Analytics and Simulation (MBDAS2020), 2020.

- International Scientific Committees, 2020 4th International Conference on Modelling, Simulation and Applied Mathematics, 2020.

- International Scientific Committees, 2020 3rd International Conference on Applied Mathematics, Modeling and Simulation (AMMS2020), 2020.

- International Scientific Committees, 2020 3rd International Conference on Modeling, Simulation and Optimization Technologies and Applications (MSOTA2020), 2020.

## RESOURCE PERSON FOR FDP/ WORKSHOP/GUEST LECTURE

- Keynote Speaker, 2021 International Conference on Informatics, Networking and Intelligent Computing (INIC2021), in Beijing, China, September 26-27, 2021.

- Keynote Speaker, 2021 International Conference on Artificial Intelligence, Big Data and Mechatronics (AIBDM2021), in Guangzhou, China, September 17-18, 2021.

- Resource person of AICTE Training And Learning (ATAL) Academy Sponsored Five Days Faculty Development Programme on "Artificial Intelligence for Computer Vision (Advanced)" from 26th to 30th July, 2021 Organized by the Department of Computer Science and Engineering, In Association with AICTE ATAL, Indian Institute of Technology, Roorkee (IITR).

- Resource person of AICTE Training And Learning (ATAL) Academy Sponsored Five Days Faculty Development Programme on "Artificial Intelligence for Computer Vision (Elementary)" from 12th to 16th July, 2021 Organized by the Department of Computer Science and Engineering, In Association with AICTE ATAL, Indian Institute of Technology, Roorkee (IITR).

- Resource person of the Workshop on "Computer Vision & Image Processing (WCVIP, 2020)" on 14th–24th December 2020 organized by Department of Computer Science and Engineering and Electronics & ICT Academy at Indian Institute of Technology-Roorkee, India.

- Resource person of One Week Online Faculty Development Programme On "Challenges & Opportunities in Electrical Engineering - A Research Perspective" on 15th and 20th June 2020 organized by Department of Electrical and Electronics, Bharat Institute of Engineering and Technology, Hyderabad.

## EDITOR & REVIEWER

- *Research and Development In-charge, Department of Electrical and Electronics Engineering,* Bharat Institute of Engineering and Technology, 2019-2020.

- *Assistant Editor, International Journal of Electronic Devices and Networking, AkiNik Publications, 2022- present.*

- *Assistant Editor, International Journal of Electrical and Data Communication AkiNik Publications, 2022- present.*

- *Assistant Editor, International Journal of Research in Circuits, Devices and Systems, AkiNik Publications, 2022- present.*

- *Lead Guest Editor, Special Issue: "Research on Solar Radiation Measurement and Simulation Techniques", Thermal Science and Engineering (eISSN: 2578-1782). 2023-2023.*

- Lead Guest Editor, Special Issue: "Smart Embedded Technologies and Sensors for Sustainable Renewable Energy and System Applications", Sensors, MDPI Publication, (EISSN: 1424-8220, Impact Factor: 3.847, and 5-Year Impact Factor: 4.050). 2022-2023.

- Lead Guest Editor, Special Issue: "Advanced Modeling and Simulation for Application in Solar Radiation and Photovoltaic Systems", Sustainability, MDPI Publication, (EISSN: 2071-1050, Impact Factor: 3.889, and Citescore: 5.0). 2022-2023.

- Lead Guest Editor, Special Issue: "Applications of Photovoltaic Systems for Sustainable Development Using Highly Efficient Materials, Models, and Intelligent Hybrid Systems", Applied Sciences, MDPI Publication, (ISSN: 2076-3417, Impact Factor: 2.838, and Citescore: 3.7). 2022-2023.

- *Lead Guest Editor, Special Issue: "Deep Learning: Advances, Challenges, and Trending Solutions in Renewable Energy Systems" Energy Engineering, Tech Science Press, 2021.*

- Editorial Board Members, Journal of Modern Green Energy, Innovation Forever Publishing Group, 2022-present.

- Editorial Advisory Board, Asian Journal of Electrical Sciences, The Research Publication, 2022-present.

- Editorial Board Members, Acta Scientific Computer Science, Acta Scientific Publishing Group, 2022-present.

- Editorial Board Members, Journal of Power and Energy Engineering, Scientific Research Publishing, 2021-present.

- *Editorial Board Members,* International Journal of Advances in Electrical Engineering, AkiNik Publications, 2020- present.

- *Editorial Board Members,* Blue Eyes Intelligence Engineering and Sciences Publication (BEIESP), 2019- present.

- *Editorial Board Members*, Electrical Science & Engineering, Bilingual Publishing Co, 2019-present.

- *Editorial Board Members*, Artificial Intelligence Evolution, 2019-present.

- *Editorial Board Members*, American Journal of Artificial Intelligence (AJAI), 2017-present.

- *Advisory Board Member*, The IRES, 2017.

- *Expert Reviewer With AEIC, 2021-present.*

- Members of Reviewer Chair, Lattice Science Publication (LSP), 2020-present.

- Reviewer, Applied Sciences, MDPI, 2023-present.

- Reviewer, Wireless Personal Communications, Springer, 2023-present.

- Reviewer, Frontiers in Energy Research, Frontiers, 2023-present.

- Reviewer, Optical and Quantum Electronics, Springer, 2023-present.

- Reviewer, Systems, MDPI, 2022-present.

- Reviewer, Electronics, MDPI, 2022-present.

- Reviewer, PeerJ Computer Science, PeerJ, 2022-present.

- Reviewer, Energies, MDPI, 2022-present.

- Reviewer, Digital Finance, Springer, 2022-present.

- Reviewer, Scientific Reports, Springer, 2022-present.

- Reviewer, Stochastic Environmental Research and Risk Assessment, Springer, 2022-present.

- Reviewer, International Journal of Green Energy, Taylor & Francis, 2022-present.

- Reviewer, Frontiers in Ecology and Evolution, Frontiers, 2022-present.

- Reviewer, International Journal of Photoenergy, Hindawi, 2022-present.

- Reviewer, Journal of Electrical and Computer Engineering, Hindawi, 2022-present.

- Reviewer, 2nd International Conference on Electrical, Computer and Energy Technologies (ICECET'22), 2022.

- Reviewer, Journal of Computer Science, Science Publications, 2022-present.

- Reviewer, Multimedia Tools and Applications, Springer, 2022-present.

- Reviewer, Systems and Soft Computing, Elsevier, 2022-present.

- Reviewer, 2021 3rd International Conference on Computer, Communications and Mechatronics Engineering (CCME2021) on December 17, 2021.

- Reviewer, Archives of Electrical Engineering, 2021-present.

- Reviewer, IEEE Access, Institute of Electrical and Electronics Engineers, 2021-present.

- Reviewer, Soft Computing, Springer, 2021-present.

- Reviewer, Computers and Geosciences, Elsevier, 2021-present.

- ➢ Reviewer, Sustainable Energy Technologies and Assessments, Elsevier, 2021-present.

- ➢ Reviewer, The Journal of Supercomputing, Springer, 2021-present.

- ➢ Reviewer, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, 2021-present.

- ➢ Reviewer, IEEE International Conference on Electrical, Computer, and Energy Technologies (ICECET'21), South Africa on 09-10 December 2021.

- ➢ Reviewer, Springer Nature Computer Science, 2020-present.

- ➢ Reviewer, Neural Processing Letters, Springer, 2021-present.

- ➢ Reviewer, IEICE Transactions on Information and Systems, 2020-present.

- ➢ Reviewer, Soft Computing Letters, Elsevier, 2020-present.

- ➢ *Reviewer*, Studies in Computational Intelligence Series", Springer Nature, Switzerland, 2020-present.

- ➢ *Reviewer*, Artificial Intelligence Review, Springer, 2019-present.

- ➢ *Reviewer*, Journal of Experimental & Theoretical Artificial Intelligence, Taylor & Francis, 2019-present.

- ➢ *Reviewer*, The 4th International Conference on New Energy and Future Energy System (NEFES 2019), 2019.

- ➢ *Reviewer*, International Journal of Electrical, Electronics & Computer Science Engineering, 2019-present.

- ➢ *Reviewer,* Journal of Applied Meteorology and Climatology, 2019-present.

- ➢ *Reviewer*, Current Computer-Aided Drug Design, Bentham Science, 2019-present.

- ➢ *Reviewer*, Journals Energy & Environment, SAGE, 2017-present.

- ➢ *Reviewer*, Computational Intelligence and Neuroscience, Hindawi, 2017-present.

- ➢ *Reviewer*, ENERGY Journal, Elsevier, 2016-present.

➢ *Reviewer,* International Journal of System Assurance Engineering and Management, Springer, 2016-present.

## CO-CURRICULAR CERTIFICATIONS

➢ Completed a course "Design Thinking for the Greater Good: Innovation in the Social Sector" by the University of Virginia and offered through Coursera

➢ Completed a course "Wind Energy" by Technical University of Denmark (DTU) and offered through Coursera

➢ Completed a course "Introduction to Electronics" by Georgia Institute of Technology and offered through Coursera

➢ Completed a course "Solar Energy Basics" by The State University of New York and offered through Coursera

➢ Completed a course "Solar Energy Systems Overview" by the University at Buffalo and The State University of New York and offered through Coursera

➢ Completed a course "Electric Utilities Fundamentals and Future" by the University of Colorado System and offered through Coursera

➢ Completed a course "Natural Gas" by University at Buffalo and The State University of New York and offered through Coursera

➢ Completed a course "Introduction to Self-Driving Cars" by the University of Toronto and offered through Coursera

➢ Completed a course "How Things Work: An Introduction to Physics" by the University of Virginia and offered through Coursera

➢ Completed a course "Neural Networks and Deep Learning" by deeplearning.ai and offered through Coursera

➢ Completed a course "Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization" by deeplearning.ai and offered through Coursera

➢ Completed a course "Convolutional Neural Networks" by deeplearning.ai and offered through Coursera

- Completed a course "Sequence Models" by deeplearning.ai and offered through Coursera

- Completed a course "Sensors and Sensor Circuit Design" by the University of Colorado Boulder and offered through Coursera

- Completed a course "Introduction to Programming with MATLAB" by Vanderbilt University and offered through Coursera

- Completed a course "The Arduino Platform and C Programming" by the University of California, Irvine, and offered through Coursera

- Completed a course "Structuring Machine Learning Projects" by deeplearning.ai and offered through Coursera

- Completed a course "Building Arduino robots and devices" by Moscow Institute of Physics and Technology and offered through Coursera

- Completed a course "Cybersecurity and the Internet of Things" by the University System of Georgia and offered through Coursera

- Completed a course "Linear Circuits 1: DC Analysis" by Georgia Institute of Technology and offered through Coursera

- Completed a course "Linear Circuits 2: AC Analysis" by Georgia Institute of Technology and offered through Coursera

- Completed a course "Interfacing with the Raspberry Pi" by the University of California, Irvine, and offered through Coursera

- Completed a course "Programming for Everybody (Getting Started with Python)" by the University of Michigan and offered through Coursera

- Completed a course "Energy: The Enterprise" by the University at Buffalo and The State University of New York and offered through Coursera

- Completed a course" Safety in the Utility Industry" by the University at Buffalo and The State University of New York and offered through Coursera

- Completed a course "Python Basics" by the University of Michigan and offered through Coursera

- ➢ Completed a course "Electric Power Systems" by the University at Buffalo and The State University of New York and offered through Coursera

- ➢ Completed a course "Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning" by deeplearning.ai and offered through Coursera

- ➢ Completed a course "An Introduction to Interactive Programming in Python (Part 1)" by Rice University and offered through Coursera

- ➢ Completed a course "AI For Everyone", by deeplearning.ai and offered through Coursera

- ➢ Completed a course "Create a Resume and Cover Letter with Google Docs", by Coursera Project Network and offered through Coursera

- ➢ Completed a course "First Step Korean" by Yonsei University and offered through Coursera

- ➢ Completed a course "Learn to Speak Korean 1" Yonsei University and offered through Coursera

- ➢ Completed a course "Machine Learning Onramp" by MathWorks

- ➢ Completed a course "Deep Learning Onramp" by MathWorks

- ➢ Completed a course "MATLAB Onramp" by MathWorks

- ➢ Completed a course "Machine Learning with Python" by Cognitive Class, IBM.

- ➢ Completed a course "Node-RED: basics to bots" by SkillsNetwork, IBM.

## INDUSTRIAL EXPOSURE:

**Industries Visited:**
- Thermal Power Station, Ennore.

**In plant Training Underwent:**
- Tamil Nadu Electricity Board (T.N.E.B), Avadi.

## ACHIVEMENTS:

- ➢ ACADEMICS

- ➢ School First in HSC.

- ➢ Second Rank in M.E (E.D.E.C).

- ➢ AWARDS

- ➢ Recipient of UGC Fellowship.

- ➢ Recipient of Transilvania Fellowship for Postdoctoral Research/Young Researchers.

- ➢ **EXTRACURRICULAR ACTIVITY**

  - ➢ Won $2^{nd}$ prize in State Level Oratorical Competition.

  - ➢ Won Lots of first prizes in Oratorical & Poem Writing Competition & Debate.

  - ➢ Participate in T.V Talkshows & T.V Programs (Sun T.V, Jaya T.V, Raj T.V, Vijay T.V, News7 T.V, Tamilan T.V).

## CO-CURRICULAR ACTIVITIES:

- ➢ Participated in a CSIR Sponsored **SEMINAR** on **Electrical Drives & Embedded Control** organized by Anna University, Chennai from $17^{th}$-$22^{nd}$ December 2012.

- ➢ Participated in a One Day Workshop Programme on "**Research Methodology**", organized by Centre for Faculty Development, Anna University, Chennai on $11^{th}$ Dec 2014.

- ➢ Participate in a UGC Sponsored Faculty Development Programme on "**Green Energy Solutions for Sustainable Development**" organized by Department of Electrical and Electronics Engineering, Coimbatore Institute of Technology, Coimbatore from $14^{th}$-$20^{th}$ Dec 2014.

- ➢ Participated in a National Workshop on **Computer Vision and Image Processing Technique Data Analytics** organized by Department of

Computer Science and Engineering, Amrita Vishva Vidhyapeetham University, Coimbatore from 18$^{th}$-20$^{th}$ Feb 2015.

➢ Participated in a 19$^{th}$ ISTE TN & P Section Annual convention for Faculty Members of Engineering College–2016 (Theme: **Internationalization of Engineering Education – Empowering the Future**) from 2$^{nd}$-3$^{rd}$ Dec 2016.

➢ Participated in a Workshop Programme on "**Scope for R & D projects and Proposal Preparation**", organized by Centre for Technology Development and Transfer, Anna University, Chennai on 12$^{th}$ May 2017.

➢ Participated in a Workshop Programme on "**One Day Workshop on Intellectual Property Rights 2018 (IPR 2018)**" organized by Centre for Intellectual Property Rights (CIPR), Anna University, Chennai on 2$^{nd}$ Feb 2018.

➢ Participated in a One Day Workshop on **Real Time Power Quality Assessment & Energy Audit** organized by Bharat Institute of Engineering and Technology, Hyderabad on 05$^{th}$ Jan 2019.

➢ Participated in an FDP on **Digital System Design** organized by NITTTR from 28$^{th}$ Jan–01$^{st}$ Feb 2019.

➢ Participated in a STTP on **Integration and Control of Embedded Electrical Systems** organized by NI Instruments, Bharat Institute of Engineering and Technology, Hyderabad from 11$^{th}$ March–15$^{th}$ March 2019.

➢ Competed an FDP on **Advance Power Electronics and Control** organized by NPTEL, 28$^{th}$ Jan–31$^{st}$ March 2019.

➢ Participated in a **Special Seminar for Principals and Faculty of Engineering Colleges**, Vivekananda Institute of Human Excellence, Hyderabad on 09$^{th}$ September 2019.

➢ Participated in a One Day **Awareness Workshop on Role of IPR in Innovation & Product Development** organized by Bharat Institute of Engineering and Technology, Hyderabad on 30$^{th}$ October 2019.

➢ Participated in a Regional Workshop on **Writing Proposals for Research Grants** organized by SRATE, Bharat Institute of Engineering and Technology, Hyderabad from 11th-14th February 2020.

➢ Participated in an Online Faculty Development Programme on **Research Opportunities in Power Engineering (ROPE-2020)**, organized by CMR College of Engineering & Technology, Hyderabad from 22nd April–27th April 2020.

➢ Participation in the webinar on **NIRF(National Institutional Ranking Framework) Demystified** by Assaan Educare Foundation on 06th June 2020.

➢ Participation in the **Faculty Training Program on Industry 4.0** organized by IEEE India Council during April 2nd and 3rd, 2022 through online.

➢ Presented **3 SEMINARS** 1. Computational Intelligence Approaches for Wind Speed Forecasting, 2. Renewable Energy Forecasting Techniques Using Soft Computing Approach and 3. Metaheuristic Optimization Algorithms Application in PhotoVoltaic (PV) System.

## PROFESSIONAL BODY MEMBERSHIPS

➢ The Institution of Engineers (India), Membership No: M-1774268.

➢ IEEE, Member, Member ID: 97507022.

➢ Life Member - Computer Society of India (CSI), Life Member ID: 7022220001.

➢ Life Member- Indian Unit for Pattern Recognition and Artificial Intelligence (IUPRAI).

➢ Life Member- Solar Energy Society of India, Membership ID: 4710.

➢ Life Member- Indian Society For Technical Education (ISTE), Membership ID: 134515.

➢ Life Member- Scientific & Technical Research Association, Membership ID: STRA-M19267.

➢ Life Member- International Association of Engineers (IAENG), Member

Number: 236686.

- Life Member- Teaching and Education Research Association (TERA), Membership ID: TERA-M192166.

- Life Member- International Computer Science and Engineering Society (ICSES), Membership ID: #4630.

- Senior Member- Institute of Research Engineers and Doctors (IRED) - SNM10100059926.

## COMMUNICATION SKILLS:

- As a student and research scholar, I have taken many seminars and keynote speeches in various colleges and institutes.

- Can interact in Two Languages (English and Tamil).

## PERSONAL SKILLS:

- Inquiring-minded researcher.

- Dutiful and organized towards the profession.

- Smart Worker.

- Innovative and self-motivated.

- Confident to take up any new task and complete it successfully.

## DECLARATION

I declare that the Information furnished above is accurate to the best of my knowledge.

**PLACE:** Chennai

**DATE:**                                                                              **[M. MADHIARASAN]**