

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.MANOCHARAN

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 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

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

RESEARCH INTEREST

- Renewable Energy Systems
- Modeling and Simulation
- Artificial Intelligence & Soft computing
- Artificial Neural Network
- Machine Learning
- Deep Learning
- Optimization
- Soft Computing
- 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 in 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
- Working as a postdoctoral fellow in Indian Institute of Technology, Roorkee, From December 2020 to present.

REFEREED, ARCHIVAL PUBLICATIONS

PATENT

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

INTERNATIONAL JOURNALS

- **Madhilarasan, M.** 2021. ‘Design and development of IoT based solar powered versatile moving robot for military application’, International Journal of System Assurance Engineering and Management, In Press, DOI: 10.1007/s13198-021-01089-9.
- **Madhilarasan, 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, & 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** & 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** & 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** & 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** & 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** & 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** & 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** & 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** & 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** & 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** & 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** & 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** & 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** & 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 & 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

- **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

- 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.
- 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 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

- 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.
- 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.

EDITOR & REVIEWER

- *Research and Development In-charge, Department of Electrical and Electronics Engineering, Bharat Institute of Engineering and Technology, 2019-2020.*
- *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*, 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*, 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*, Springer Artificial Intelligence Review, 2019-present.
- *Reviewer*, Taylor & Francis, Journal of Experimental & Theoretical Artificial Intelligence, 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*, SAGE Journals Energy & Environment, 2017-present.
- *Reviewer*, Hindawi Computational Intelligence and Neuroscience, 2017-present.

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

CO-CURRICULAR CERTIFICATIONS

- Completed a course “Design Thinking for the Greater Good: Innovation in the Social Sector” by 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 University at Buffalo and The State University of New York and offered through Coursera
- Completed a course “Electric Utilities Fundamentals and Future” by 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 University of Toronto and offered through Coursera
- Completed a course “How Things Work: An Introduction to Physics” by 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 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 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 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 University of California, Irvine and offered through Coursera
- Completed a course “Programming for Everybody (Getting Started with Python)” by University of Michigan and offered through Coursera
- Completed a course “Energy: The Enterprise” by University at Buffalo and The State University of New York and offered through Coursera
- Completed a course “Safety in the Utility Industry” by University at Buffalo and The State University of New York and offered through Coursera
- Completed a course “Python Basics” by University of Michigan and offered through Coursera
- Completed a course “Electric Power Systems” by 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:

ACADAMICS

- School First in 12th Std.
- Third Rank in B.E (E.E.E).
- Second Rank in M.E (E.D.E.C).

AWARDS

- Recipient of UGC Fellowship

EXTRA CURRICULAM

- Won 2nd prize in state level Oratorical Competition.
- Won Lot of first prizes in Oratorical & Poem Writing Competition & Debate.
- Participate in T.V Talk show & 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 17th-22nd December 2012.
- Participated in an One Day Workshop Programme on “**Research Methodology**”, organized by Centre for Faculty Development, Anna University, Chennai on 11th 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 14th-20th 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 Vidyapeetham University, Coimbatore from 18th-20th Feb 2015.
- Participated in a 19th ISTE TN & P Section Annual convention for Faculty Members of Engineering College–2016 (Theme: **Internationalization of Engineering Education – Empowering the Future**) from 2nd-3rd 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 12th 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 2nd 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 05th Jan 2019.
- Participated in an FDP on **Digital System Design** organized by NITTTR from 28th Jan–01st 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 11th March–15th March 2019.
- Completed an FDP on **Advance Power Electronics and Control** organized by NPTEL, 28th Jan–31st March 2019.
- Participated in a **Special Seminar for Principals and Faculty of Engineering Colleges**, Vivekananda Institute of Human Excellence, Hyderabad on 09th 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 30th 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.
- Presented **2 SEMINARS** 1.Computational Intelligence Approaches for Wind Speed Forecasting and 2. Renewable Energy Forecasting Techniques Using Soft Computing Approach.

PROFESSIONAL BODY MEMBERSHIPS

- 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 (ICES), Membership ID: #4630.
- Senior Member- Institute of Research Engineers and Doctors (IRED) - SNM10100059926.

COMMUNICATION SKILLS:

- Taken Lots of Seminars in College as a Student and Research scholar.
- Can interact in Two Languages (Tamil, English).

PERSONAL SKILLS:

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

DECLARATION

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

PLACE: Chennai

DATE:

[M. MADHIARASAN]