Dr. NAGARAJ M. S. BE (E &E), M. Tech. (Power Systems), Ph.D. (E& E)
Prof. & Head,
Dept. of Electrical & Electronics,
Bapuji Institute Engineering and Technology, DAVANGERE -577004
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RESEARCH INTEREST

Electrical Load forecasting, Reactive Power Compensation, Economic Scheduling, Contingency Analysis,

Control Systems, Power Electronics, Artificial Neural Network, Fuzzy Logic.

TEACHING EXPERIENCE:

Having 34 years of teaching experience and 12 years in research

- Presently working as HOD of Electrical & Electronics, BIET, Davanagere, from August 2010 to till date.
- Presently working as Dean, Training & Placement from March 2018 till date.
- Worked as Assistant Professor in Electrical & Electronics and Engineering from August 2007 to August 2008.
- Worked as Lecturer in Electrical & Electronics Engineering, BIET, Davanagere, from 15 April 1991 to July 2007.
- Worked as Lecturer in Electrical & Electronics Engineering, STJIT, Rannebenur from September 1986 to 14 April 1991.

EDUCATION:

Ph.D. in Electrical Engineering from Visvesvaraya Technological University, Belagavi during the year 2008.

M.Tech. in Electrical Power Systems from NIE, Mysore. Affiliated to Visvesvaraya Technological University, Belagavi, during the year 1990 Percentage (First Class with Distinction): 71%

PROFESSIONAL MEMBERSHIP:

- Member of Indian Society for Technical Education (ISTE)
- Member for Institute of Engineers (IE)

In Inter National Journal

1. "Development of a New Model of PFC for Power Flow in Multi-Transmission Lines", International Journal of Computer Applications (IJCA) Vol.84, No.5, December 2013, pp.33- 37, ISSN: 0975-8887, Impact Factor: 0.82.
2. Optimum Generation Scheduling for Thermal Power Plants using Artificial Neural Network, International Journal of Electrical and Computer Engineering (IJECE) Vol.1, No.2, December 2011, pp. 135-139

In National Journal

1. Short Term Electrical Load Forecasting using Optimized Data, Journal of Intelligent System Research, Jan-June 2007, , New Delhi, pp 99-104
2. Short Term Electrical Load Forecasting using Clustered Data - Journal of the Institution of Engineers (India), Vol-89, 19th September 2008, pp 28-30

In International Conference

1. Comparative Study of Reduction of the THD Using Different Switching Devices with Different Methodologies Developed in Matlab / Simulink Environment", Two day national conference on challenges and issues in operation of competitive electricity markets (CIOCEM' 2016), Power Systems Division, Central Power Research Institute (CPRI), Bangalore, December 2016.
2. A Review of the Effect of Harmonics Due to Switching Devices in The Field of Power Electronics and Its Applications", International Journal of Emerging Technology and Research, IF : 0.997, Vol. 2, Issue 2, pp. 44 -50, March- April 2015.
3. "Harmonic Problems in the Switching Devices with respect to Electrical Power Quality Point of View", International Journal of Science, Technology and Management , ISSN(P) 2394-1529 ISSN(O) 2394-1537, IF 2.012, Vol. 04, Issue 03, pp.17-34, March 2015
4. Analysis of The Effect of Harmonics Due to Switching Devices with respect to Experimental and Simulation Point of View", International Journal of Innovative Research in Computer and Communication Engineering, I F: 4.447, ISSN (Online): 2320-9801, ISSN (Print):2320-9798, Vol. 3, Issue 3, DOI: 10.15680/ijircce.2015.0303008, paper id 8, pp.1454-1461, March 2015.
5. , "Novel Design of a Neuro-Fuzzy (ANFIS) Controller to Improve the Power Dynamics for Minimization of Harmonics Using a Hybrid Scheme". International Journal of Advanced Research in Electrical Electronics and Instrumentation Engineering. Vol. 5, Issue 9, Sept. 2016.
6. Simulation of a 3-ϕ, 2-Level Inverter with a Discrete 3-ϕ PWM Generator to Reduce the Harmonics and Improve the Power Quality". IJISET - International Journal of Innovative Science, Engineering & Technology, Vol. 3 Issue 9, September 2016.
7. An Improved Steady-State Modelof an Interline Power Flow Controller for the Multi- Transmission System", International Journal of Grid and Distributed Computing (IJGDC) Vol.9, No.5, May 2016, pp.13-24, ISSN 2005-4262. (EI Compendex Indexed Journal)
1. "Effect of TCSC on Line Voltage Stability Indices under Single Line Outage Condition", International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering (IJIREEICE) Vol.3, Issue 8, August 2015, pp.101-105, ISSN 2321-2004, Impact Factor 3.885.
8. "Condition Number Based Contingency Ranking under Line Outage Condition Incorporating IPFC", International Conference on Renewable Energy Utilization, Dept. of EEE, Coimbatore Institute of Technology, Coimbatore, India, 6 -8, January 2016.
9. Artificial Neural Network Application for Prediction of Reactive Power Compensation Under Line Outage Contingency," IEEE- International Conference in Power Energy and Control (ICPEC-2013), Dindigul, Tamil Nadu, India, 6-8 February, 2013, pp.355-359, ISBN 978-1-4673-6029-6.

10. "TCSC Incorporated Voltage Stability Assessment under Contingency Condition," International Journal of Grid and Distributed Computing (IJGDC), ISSN 2005-4262, Vol.10, No.7, pp.27-40, May 2017. **(ESCI & Thomson Reuters Indexed Journal)**
11. "Line Congestion Relief Using UPFC," IEEE- International Conference in Power Energy and Control (ICPEC-2013), Dindigul, Tamil Nadu, India, 6-8 February, 2013, pp.58-63, ISBN 978-1-4673-6029-6.
12. Sensitivity Factor based Improvement Studies Incorporating Facts Devices Under Line Outage Contingency," IEEE- International Conference in Power Energy and Control (ICPEC-2013), Dindigul, Tamil Nadu, India, 6-8 February, 2013, pp.64-68, ISBN 978-1-4673-6029-6.
13. "Identification of DG Location through Sensitivity Factors under Line Outage Condition," International Journal of Grid and Distributed Computing (IJGDC) **(ESCI & Thomson Reuters Indexed Journal)**
14. "A Review on Electrical Power System Contingency Ranking Using Artificial Intelligence Techniques", IOSR Journal of Electrical and Electronics Engineering (IOSR-JEEE) e-ISSN: 2278-1676, p-ISSN: 2320-3331, Vol. 12, Issue. 4 Ver. II (July- Aug. 2017), PP 06-10
15. "Online Static Security Assessment Module using Artificial Neural Network on IEEE 30 Bus System", International journal of Computer Science and Mobile computing, ISSN 2320-O888X, Vol. 3, December 2014, pp.20-29
16. Development of an Online Static Power System Security Assessment Module Using Artificial Neural Networks in 118- Bus Test System", IJMCS, ISSN: 2320-7868 (Online), Vol. 2, Issue 6, December 2014.
17. "Novel Decision Based Modeling of Minimizing Usage Cost of Electricity in Smart Grid" Springer International Publishing AG 2017 Advanced in intelligent system and computing 573, ISSN 2194-5367(electronics), ISBN978-3-319-57261-1(eBook), DOI 10.1007/978-3-319-57261-1-14 (**SPRINGER**)
18. "Advancement Trends In Existing Smart Metering Over Smart Grid", International Journal of Advanced Computer Science and Applications, ISSN:2156-5570(On line), ISSN:2158-107X(Print) (**SCOPUS)**
19. "Design and implementation of Zigbee based smart grid system for power management" International Conference On Smart Technologies For Smart Nation (SmartTechCon 2017) i.e IEEE CONFERNCE ON 17-19 August 2017, REVA University, Bangalre, India
20. "Security Concern To Simulate The Smart grid" International Journal of Management, Technology And Engineering, Vol. 8, Issue XII, DECEMBER/2018 ISSN NO: 2249-7455

21. Reduction of Harmonic Component in Voltage Sourced Circuits Using IGBT's and Diode's Using PWM Technique", IFERP's International Conference on Chip, Circuitry, Current, Coding, Combustion and Composites (i7c), 83-87, Bangalore, December 2016.
22. "Harmonic Elimination System using a Novel Type of Pulse Width Modulation Scheme in Matlab/Simulink Environment", IEEE International Conference on Signal Processing, Communication, Power and Embedded Systems (SCOPES-2016), Centurion University of Technology and Management, Odisha, India. Nov 2016.Design and Development of VSI for Harmonic Reduction Using 2-Stage IGBT's and Diode's using

PWM", International Conference on Innovations in Computer, Electrical and Electronics Engineering and Technology (ICEEET-2016), Singapore, Dec. 2016.

23. Capacitor Placement and Replacement for Reactive Power Control in Radial Distribution System, IEEE TENCON-06, International Conference, 14-17th, November 2006, Hong Kong.
24. Capacitor Placement for Voltage Drop and Power Loss Reduction in Radial Distribution Systems, International Seminar on Power Transmission Research and Challenges, 20-22nd, Dec. 2005, Central Power & Research Institute, Banglore.
25. Fuzzy Based Capacitor Placement & Sizing on Radial Power Distribution Systems, Central Board for Power & Irrigation, 4th International Conference, January 2003, Aurangabad (Maharashtra)
26. Multi Objective Bi-Directional Search Algorithm for Distribution Network Optimization, International Conference, CIIC- 2001, December 2002, Kolkatta, pp139-142.
27. A Fuzzy Expert System for Service Restoration of Primary Distribution System, International Conference, CIIC-2001, December 2002, Kolkatta, pp 121-125.
28. Distribution System Fault Location using Expert System & Automatic Location, International Conference, CIIC-2001, December 2002, Kolkatta, pp 203-208.
29. Hybrid Neural Network Model for Short Term Load Forecasting, Journal of Current Sciences for International Publication of Society, Vol.3, N0.1, 2003, Dumaka.
30. ANN Based Contingency Analysis of Electrical Power System, Proceedings of International Conference on Cognition & Recognition, ICCR-05, 22nd-23rd, December 2005, Mysore, India, pp 302-308.
31. Genetic Algorithm Solution to Unit Commitment & Economic Dispatch, Proceedings of International Conference on Cognition & Recognition, ICCR-05, 22nd-23rd, December 2005, Mysore, India, pp 335-342.
32. Hourly Load Forecasting Using Artificial Neural Network, NSC-2005, 16-17th December 2005, I I T B, Bombay
33. Optimal Capacitor Placement & Sizing on Radial Distribution System using Fuzzy Expert System, 12th NPSC2002, 27-29th December 2002, IIT, Kharagpur, pp274-278.
34. Reliability Studies for Distribution System using Fuzzy Expert System, 12th NPSC2002, 27- 29th, December 2002, I I T, Kharagpur, pp 669-672.

In National Conference

1. Short Term Load Forecasting using Artificial Neural Network, Proceedings of the SACOEFERENCE, National Conference, 18-19th August 2005, Dr. Sivanthi Aditanar College of Engineering, Tiruchendur, Tamil Nadu, India, pp 19-23.
2. Distribution System Line Loss Evaluation using ANN, Proceedings of National Conference on Recent Trends & Emerging Technologies in Electrical Systems, ELCON-05, 06th –07th, October-2005, Kovilpatti, Tamil Nadu, India, pp 60-66.
3. Experimental Determination of THD for different Lighting Loads- National Conference on Advances in Electrical Engineering(NACEE-09), 25-26th September, 2009, NMAMIT, Nitte

ACHIEVEMENTS:

- Top teacher award
- Member of Board of Studies of VTU
- Member of Board of Examiners of VTU
- Member of BOS & BOE of Kuvempu & Davangere University
- Internal & External Deputy Chief Superintendent

Workshops / Conferences Attended:

1. Energy Auditing & Demand side Management, from 26-27 Jan 1998, MCE, Hassan
2. Power Systems Simulation, from 27-31 March2001 SIT, Tumkur
3. Teaching Computer Application to Power Systems using a Comphrenesive & Illustrative Software Teaching Tools, from 23-24 Aug2002, BVBCE, Hubli
4. Intelligent System & it's Application to Power Systems, from 8-10 April 2004, AIT, Chikkmaglure
5. SACOFERENCE Paper Presentation from18-19Aug2005, Dr Sivanth Aditanar college of Engineering, Tiruchendur, Tamilnadu
6. Power Transmission- Research Interest & Challenges, from20-22 Dec2005, CPRI, Banglore
7. CAD for Electrical Drawing, from 13-14 May 2005, BIT, Banglore
8. Power Systems Simulation, from 29-30 Sept & 01 Oct 2005, BIT, Banglore
9. Technology Trend in Electronic Packaging, from 19 Nov 2005, NIE, Mysore
10. Electrical Infrastructure of Professional Intuitions & Establishments, from 20-21 March 2006, SJCE, Mysore
11. Advances in Distribution Engineering: Distributed Generation, Micro-Grid & Renewable Integration" from 28-30 August, 2015 at NIE, Mysuru.
12. Smart grid technologies: Recent initiatives, Challenges & Opportunities, from 27-28Jan2017, NIEIT, Mysuru

Workshops / Conferences Conducted:

1. Advanced Electrical Power Systems & Artificial Intelligent Techniques, from 11-12 Feb2011, BIET, Davangere

Short-Term Course Attended:

1. P C Based Power System Analysis, NIE, Mysore, from 17-31 July 1989
2. Recent Trends & Application in High Voltage Insulation, from13-24, Jan 2003, BIET, Davangere
3. Fuzzy Logic & it's Application to Power Systems, from15-26, March2004 BIET, Davangere

RESPONSIBILITIES:

- Head of Department
- Dean-Training & Placement
- Campus Electrical Maintenance

Project Guided:

- For BE-55
- For PhD- 02 - Awarded
  04 - Registered

SUBJECTS TAUGHT:

1. Basic Electrical Engineering
2. Network Analysis
3. Control Systems
4. Field Theory
5. Power Electronics
6. Microprocessor
7. Signals & Systems
8. Digital Signal Processing
9. Electrical Drawing
10. Transmission & Distribution
11. Power system Analysis
12. Artificial Neural Network
13. Utilization of Electric Power
14. Illumination Engineering
15. Computer Application to Power Systems
16. Power System Operation & Control

Ph.D Thesis:

DEVELOPMENT OF ALGORITHM FOR OPERATIONAL PLANNING IN POWER DISTRIBUTION SYSTEM USING ARTIFICIAL NEURAL NETWORK AND FUZZY LOGIC

A novel approach for short term load forecasting in electric utility using ANN and FNN model have been developed. The forecast model predicts one day ahead hourly electric loads. Fuzzy c means clustering is used to optimize the conventional load data. The load forecasting is performed considering effect of load variation factors such as change in temperature and holiday/special day. Historical hourly load data of Southern Region of India and Karnataka Power Corporation Limited are used in the forecasting process. The results of FNN model for weekdays and holidays have been compared with ANN model.

An elegant technique for determining the optimal node and sizing of shunt capacitor using fuzzy logic in radial distribution system is developed. Voltage drop and peak power loss are considered simultaneously to decide the best node for capacitor placement. The validity of the developed methodology is tested with IEEE test system and practical feeder. A comparison of results from using an analytical technique and expert system shows that this fuzzy logic approach achieves better savings.

Sponsored Project:

Modernization of Power System Simulation Laboratory

Sponsored by AICTE, New Delhi[MODROBS Scheme]

Sanctioned Amount: Rs.18.3 Lakhs

Year of Sanction:2013-14

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Karnataka, INDIA