

Dr.Ritanjali Majhi

Associate Professor
School of Management
National Institute of Technology Karnataka, Surathkal
Email: ritanjalimajhi@gmail.com

Academic Appointments:

*January 2008-February 2018: Assistant Professor, School of Management
National Institute of Technology Warangal*

*March 2018-July 2018: Associate Professor, School of Management
National Institute of Technology Warangal*

Education:

Doctor of Philosophy (Analytics and Marketing) Feb, 2009

Master of Business Administration 2002

Research Experience:

Title of Ph.D Thesis: Application of Soft and Evolutionary Computing For Market Forecasting”

Prof. G. Sahoo, Birla Institute of Technology, India

Prof. G. Panda, Indian Institute of Technology, Bhubaneswar, India

In the thesis novel and accurate forecasting models have been proposed and their prediction performances have been assessed using real-time stock indices and currency exchange rates. The new models employ structures like adaptive linear combiner, multilayer perceptron (MLP), functional link artificial neural network (FLANN) and cascaded FLANN (CFLANN) based architectures trained by derivative free learning algorithms such as genetic algorithm (GA), bacterial foraging optimization (BFO) and particle swarm optimization (PSO) techniques. The results of prediction have been shown to be superior to that of conventional methods.

The research results of the thesis have appeared in form of three Elsevier international journals and eight referred conference papers.

Research Interests:

Consumer decision making, Time series Prediction, artificial intelligence and soft and evolutionary application to Management, Marketing effectiveness metrics , E-Marketing, MarketingAnalytics.

International Journals:

1. (2015). *Development and Performance Evaluation of a Novel Knowledge Guided Artificial Neural Network (KGANN) Model for Exchange Rate Prediction*. *Journal of King Saud University – Computer and Information Sciences*, doi: 10.1016/j.jksuci.2015.01.002.
2. *Comparative Performance Evaluation of Clustering Algorithms for Grouping Manufacturing Firms*, *AJSE*, 43(8), 4071-4083, 2018.
3. *On development of novel hybrid and robust adaptive models for net asset value prediction*, *Journal of King Saud University – Computer and Information Sciences*, 2018
4. *Predicting numbers of successful new products to launch using soft computing techniques: A case of firms from manufacturing sector industries*, *Journal of King Saud University – Computer and Information Sciences*, 2017
5. *Development and performance evaluation of nonlinear and robust adaptive models for customer growth prediction in Telecom sector*, “*International journal of business information system(IJBIS)* ,19(1), 1-18, 2015
6. *An adaptive nonlinear approach for estimation of consumer satisfaction and loyalty in mobile phone sector of India* , “ *journal of Retailing and Consumer Services*”(21)570-580 ,may 2014.
7. *Constrained portfolio asset selection using multi objective bacteria foraging optimization”* *Journal of Operation Research*, Springer, 14(1), 113-145, 2014.
8. *A comparative performance assessment of a set of multi objective algorithms for constrained portfolio assets selection”*, *Swarm and Evolutionary Computation* , Elsevier, 16, 38-51, 2014
9. *Forecasting of currency exchange rates using an adaptive ARMA model with differential evolution based training”*, *Journal of king saud University-Computer and information science*, Elsevier, 26(1), 7-18, 2014
10. *Development and performance evaluation of neural network classifiers for Indian internet shoppers”*, *expert Systems with Applications* , Elsevier, 39(2), pp2112-2118, Jan 2012.
11. *New robust forecasting models for exchange rates prediction”*, *Expert systems with applications*, Elsevier 39(16), 12658-12670 , 2012.
12. *Investigation on Mobile Users’ Growth Prediction performance in India”* accepted in *International Journal of Business, Management & Social Sciences* , march 2012.
13. *Investigation on Identification of Profitable Target Markets for Indian online Shoppers”*, *International Journal of Advances in Management , Technology & Engineering Sciences* , Vol. I Issue 6(II), March. 2012
14. *An Investigation on Customer Attitude and Perception towards Internet Banking: A Case Study”* in *International Journal of Information systems and Social Change(IJISSC)*, IGI Global Publishing, ISSN: 1941-868X, USA, March 2011.

15. R. Majhi, G. Panda and G. Sahoo, "Efficient Prediction of Stock Market Indices using Adaptive Bacterial Foraging Optimization (ABFO) and BFO Techniques", vol.36,issue6,pp.100971104, *Expert Systems with Applications*, Elsevier, August 2009.
16. Development and Performance Evaluation of FLANN based Model for Forecasting of Stock Markets", vol. 36,issue 3,part 2, pp. 6800-6808, *Expert Systems with applications* ,Elsevier, April 2009.
17. Efficient prediction of exchange rates using Low Complexity artificial neural network models", vol.36,issue 1,pp.181-89,*Expert systems with Applications*, Elsevier, January2009.
18. The Development of Improved Adaptive Models for Efficient Prediction of Stock Indices using CPSO and PSO Technique *International Journal of Business Forecasting and Marketing Intelligence*, Inderscience Enterprises, UK ,Vol. 1 , no.1 ,pp.50-67,2008.

Conferences:

1. S.Mishra, G.Panda, B.Majhi and R.Majhi," Improved Portfolio optimization Combining Multi objective Evolutionary Computing Algorithm and Prediction Strategy" presented in the 2012 International Conference of Financial Engineering, held in London, UK during 4-6,July 2012.
2. T.Rahul, R.Majhi," Artificial Neural Network based Efficient Consumer Growth Prediction Scheme for Mobile Telecom Sector in India"- Accepted for presentation in International Conference in Marketing, IIM Lucknow, held on 12-14,January 2012.
3. T.Rahul, R.Majhi" Applications of Neural Network In Marketing-Critical Review" 4th international Conference on Innovation in Management Challenges and Opportunities in the Next Decade", PES Bangalore held on 11-12, August 2011.
4. S.Mishra, G.Panda, S.Meher and R.Majhi, "A Study on Multi objective Evolutionary Algorithms and its Application to Economics and Finance" International Conference on Electronic System (ICES-2011), January 7-9, NIT Rourkela 2011.
5. S.Mishra, G.Panda, S.Meher and R.Majhi, Mangal Singh, "Portfolio Management Assessment by four Multi objective Optimization Algorithm" IEEE, International conference (RAICS-2011), Trivandrum September 23-25, pp.326-331.
6. Veena, R.Majhi, Naveen, T.Rahul" Customer Classification and GAP analysis in Banking Sector in Andhra Pradesh "2nd International Conference on IT & Business Intelligence" IMT, Nagpur held on 12-14, November 2010.
7. R.Majhi, B.Panda, B.Majhi, TRahul, GPanda" Development and Performance Evaluation of PSO Based Single Layer Nonlinear ANN Classifiers of Indian Online Shoppers"4th International Conference on ADVCOMP-2010, Italy, Florence, 25-30 October 2010.
8. R.Majhi, S.Pandu, B.Panda, B.Majhi, and G.Panda "Classification of Consumer Behavior using Functional Link Artificial Neural Network", IEEE International Conference on Advances in Computer Engineering (ACE-2010), Bangalore, 21-22 June 2010.
9. R.Majhi, B.Majhi, M.K.Mishra and G.Panda, "Retail Sales forecasting using differential evolution", IEEE International Conference on Nature and Biologically Inspired Computing (BICA 09), Bhubaneswar, PP.1343-1348, 9-11December 2009.
10. R.Majhi, B.Majhi, M.Rout, S.Mishra and G.Panda, "Efficient sales forecasting using ARMA- PSO model", IEEE International Conference on Nature and Biologically Inspired Computing (BICA 09), Bhubaneswar, pp.1333-1337, 9-11 December 2009.

11. R.Majhi, G.Panda and Babita Majhi, "Robust prediction of stock indices using PSO based adaptive linear combiner", *IEEE International Conference on Nature and Biologically Inspired Computing (NaBIC09)*, Coimbatore, pp.312-317, 9-11 December 2009.
12. R.Majhi, G. Panda and B.Majhi, "Robust prediction of Stock indices using Wilcoxon Neural Network", *IBS International Conference on Marketing and Business Strategy*, Hyderabad, 5-6 January 2009.
13. R.Majhi, G.Panda, G.Sahoo and Abhishek Panda, "Prediction of S&P 500 and DJIA stock indices using particle swarm optimization technique", *Proc. Of IEEE Congress on Evolutionary Computation (CEC2008)*, HongKong, June 1-6, 2008.
14. R.Majhi, G.Panda and G.Sahoo, "Stock market prediction using Functional Link Artificial Neural Networks", *Proc. Of 7th Consortium of Students in Management Research (COSMAR-2007): An International Conference*, IISc. Bangalore, 12-13 December 2007. (shortlisted for contest of best paper award).
15. R.Majhi, G. Panda and G.Sahoo, "A Novel ANN based Forecasting Model for efficient prediction of stock indices", *2nd International Conference on Advanced Computing & Communication Technologies (ICACCT-2007)*, Panipath, Haryana, 03-04, Nov., 2007, pp.318-326.
16. R.Majhi, G.Panda, G.Sahoo, P.K.Das and D.P.Das, "Stock Market Prediction of S&P 500 and DJIA using Bacterial Foraging Optimization Technique", *IEEE International Congress on Evolutionary Computation (CEC-2007)*, Singapore, 25-28, September, 2007, pp.2569-2575.
17. R.Majhi, G. Panda and G.Sahoo, "Development of An Efficient Cascaded Functional Link Artificial Neural Network Model For Exchange Rate Forecasting", *Proc. Of International conference on Intelligent Systems and Networks (IISN-2007)*, Haryana, 23rd-24th February 2007, Jagdhari, pp.242-246.
18. R.Majhi, G.Panda and G.Sahoo, "Efficient prediction of Foreign Exchange Rate using Nonlinear Single Layer Artificial Neural Model", *Proc. Of IEEE International Conference on Cybernetics & Intelligent Systems and Robotics Automation & Mechatronics - (CIS&RAM-2006)*, Bangkok, 7-9 June, 2006, pp.1-5.
19. Jena, Pradyot Ranjan, and Ritanjali Majhi. "Classifying Behavioural Traits of Small-scale Farmers." *Proc. of International Conference on Electrical, Electronics and Optimization Techniques (ICEEOT-2016)*, Chennai, 3-5 March, 2016.
20. Bhatnagar, Vikas, Ritanjali Majhi, and SL Tulasi Devi. "Efficient Prediction of New Product Growth Rate." *Proc. of International Conference on Electrical, Electronics and Optimization Techniques (ICEEOT-2016)*, Chennai, 3-5 March, 2016.
21. T.Rahul and R.Majhi, "A Critical Review on Strategic Marketing", *National conference on Convergence on Management Practices* (NCCOMP-2010), 17-18 December, 2010.
22. S.K.Mishra, G.Panda, Sukadev Meher and Ritanjali Majhi, "A Study on Applications of Multi Objective Evolutionary Algorithms in Computational Finance", *Proc. Of National conference on Convergence on Management Practices* (NCCOMP-2010), 17-18 December, 2010.
23. V.Rakesh, R.Mohan, Ritanjali Majhi and G.Panda, "Prediction of SENSEX of BSE Using Functional Link Artificial Neural Network", *Proc. Of National conference on Convergence on Management Practices* (NCCOMP-2010), 17-18 December, 2010.
24. S.K.Mishra, G.Panda, Sukadev Meher and Ritanjali Majhi, "Efficient prediction of major financial indices using Chebyshev functional Link Artificial Neural Network", *Proc. Of National conference on Advances in computational intelligence and application (NCACI-2009)*, 20-22 March, 2009.

25. SudhansuKumar Mishra, Ganapati Panda, Sukadev Meher, Ritanjali Majhi. "Efficient Prediction of Major Financial Indices using Chebyshev Functional Link Artificial Neural Network" NCACI, March 20-22, 2009. Silicon Institute of technology, Odisha, India.
26. R.Majhi and G.Panda, "Adaptive models for prediction of car sales", National conference on Advances in computational intelligence and application (NCACI-2009), 20-22 March, 2009.
27. R.Majhi, G.Panda and Babita Majhi, "Robust forecasting of foreign exchange rates using low complexity Wilcoxon norm based artificial neural network model", Proc. Of National conference on Forecasting Financial Markets in India (FFMI2008), IIT Kharagpur, 29-31 December, 2008.
28. Ritanjali Majhi, G.Panda and G.Sahoo, "Development and Evaluation of Knowledge Guided ANN Model for Exchange Rate Prediction", Proc. Of National Conference on Data Mining and e-Governance, Bilaspur, 17th Feb, 2007.
29. A.Panda, S.S.Pallai, S.Mishra, Ritanjali Majhi and G.Sahoo "Development of Functional LinCyberSecurity, Data Mining and ICT for Society, Bilaspur, 18-19, January, 2006.
30. R.Majhi and B.Majhi, "Data Mining and Its Application to Steel Industry National Conference on IT in Steel Industry, CSI Rourkela Chapter, India, January, 2002.
31. R.Majhi and B. Majhi, "Overview of E-Commerce", Annual Technical Session, Institution of Engineers, Bhubaneswar, India, 17-18, January, 2002. Artificial Neural Model for Prediction Of Currency Values", Proc. Of National Conference on Cybernetics & Intelligent Systems and Robotics Automation & Mechatronics - (CIS&RAM-2006), Bangkok, 7-9June, 2006, pp.1-5.

International Journals Communicated:

Global economic swells and slowdowns exploring its predictability using S-transform communicated, International Journal of Information Processing and Management.

Book Chapters

Efficient Prediction of Retail Sales Using Differential Evolution Based Adaptive Model", Integration of Swarm Intelligence and Artificial Neural Networks, World Scientific Press, May 2010.

Book

Efficient Retail Sales Forecasting Using BFO and PSO Based Prediction Models", Hand Book on Swarm Intelligence, Springer series, November 2000.

R.Majhi and G.Panda, Application of soft and evolutionary computing for prediction of market and financial time series (in progress, finished three chapters), Wiley Publication.

Guiding Ph.D. Students:

Currently guiding one students in the Fellow Program in Management (i.e., Ph.D.), in the capacity of their Chair or Academic Adviser. Two student has successfully Completed their thesis.

Selected Awards And Honours:

- *Outstanding Scientists in Analytics and Marketing by VIRA International ,2018*
- *Fellowship by Indian National Academy of Engineering, India during May-July, 2011*
- *Fellowship by Indian National Academy of Engineering, India during May-July, 2010*
- *Best Ph.D. Thesis award by Pentagram Research Center Pvt. Limited, Jan 2010. Reviewer of Information Science, Elsevier.*
- *Delivered Keynote Speech in Many International conferences including IEEE Conferences.*
- *Reviewer of IEEE International Conference on Biologically Inspired Computing and Applications (BICA09), Bhubaneswar, 21-22 December 2009.*
- *Awarded National Scholarship for higher study (Post-graduation) by Govt. of Odisha.*
- *One of the Topper in Sambalpur University in Bachelor's Degree Examination.*
- *Awarded National Scholarship by Govt. of Odisha for higher study 1994*
- *Awarded Physics Olympiad, 1996*

Reviewer For :

Soft Computing, Expert System with Application, Information System, Decision Support Systems, Journal of Business Internet Research, Journal of Indian Business Research, among others

New Courses Developed:

- *Market Forecasting*
- *Soft Computing Techniques and their applications to Marketing*

Workshop Conducted:

Organized National workshop on "Development of Forecasting Models for Finance and Market Data Prediction using Computational Intelligence Techniques" at Centre for Management Studies, National Institute of Technology, Warangal during 19-21 December, 2008

Organized National workshop on "Emerging trends in Financial Research" at School of Management, National Institute of Technology, Warangal during 27-29 March, 2009

Organized National conference on "Convergence of Management Practices" at School of Management, National Institute of Technology, Warangal during 17th-18th December, 2010

Continuing Education:

Conducted a special session in “IEEE International Conference on Bio-Inspired computing and Applications (BICA-09), Bhubaneswar on Biologically inspired algorithms for Marketing and Financial Application” during December 21-22, 2009.

Conducted a Faculty Development Programme in KIIT University, Bhubaneswar during 1-2, May 2009.

Participation at Various International / National Conferences / Seminars / Workshop

- *Participated in ERP Training Program held at National Institute of Technology, Warangal during Dec 4-8, 2007*
- *Participated and presented paper at IEEE International Congress on Evolutionary Computation (CEC-2007), Singapore, 25-28, Sep 2007.*
- *Participated in 3rd International Conference on Artificial Intelligence in Engineering and Technology (ICAIET–2006), Kota Kinabalu, Sabah, Malaysia during 22nd- 24th Nov., 2006.*
- *Participated and presented paper at IEEE International Conference on Cybernetics & Intelligent Systems (CIS) and Robotics Automation & Mechatronics (RAM) (CIS&RAM-2006), Bangkok during 7th-9th June, 2006*
- *Participated in National conference on Soft Computing (NCSC-2006), conducted by College of Engineering, Bhubaneswar during 24-26 March, 2006.*
- *Attended a three days Workshop on “Soft Computing” at Silicon Institute of Technology (SIT), Bhubaneswar, Feb. 2003.*

Administrative Activities:

- *Acting as a Project coordinator at National Institute of Technology, Warangal, AP*
- *Acting as a Class Coordinator at National Institute of Technology, Warangal, AP*
- *Acting as a Faculty Coordinator for CURA Management Event at National Institute of Technology, Warangal, Andhra Pradesh.*
- *Working as a Department web & annual report In charge at National Institute of Technology, Warangal, Andhra Pradesh.*
- *Serving as Superintendent of Ladies Hostel at National Institute of Technology, Warangal, Andhra Pradesh.*