

FORECASTING USING BACK-PROPAGATION NEURAL NETWORK

*Case Study for Long-Range Monsoon
Rainfall over Indian Smaller Scale
Homogeneous Geographical Region*



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Contents

CHAPTER – 1.	Introduction to meteorological forecasting problem and methodology to solve.	1
	1.1. Introduction to meteorological forecasting problem.	2
	1.2. Significant contributions in brief.	5
	1.3. Region where BPN applied (A Case study).	11
	1.4. About Dataset.	11
	1.4.1. Collection of authentic dataset.	11
	1.4.2. Pre-processing of the data.	12
	1.4.3. Standard Chaotic Dataset.	12
	1.5. Methodology to nonlinear data time series prediction.	13
	1.6. Neural network approach to nonlinear data time series prediction.	13
	1.6. Conclusion.	16
		17
CHAPTER – 2.	Design Constraints of BPN Model for Chaos Prediction.	
	2.1 Theory of chaos.	18
	2.2 Major findings in the literature.	18
	2.3 Methodology for chaos prediction.	20
	2.4 Selection of BPN parameters.	21
	2.4.1. Number of Input vectors (n).	23
	2.4.2. Number of layers (m1).	24
	2.4.3. Number of hidden layers (m2).	24
	2.4.4. Number of neurons in hidden layer (p).	24
	2.4.5. Number of output neurons.	25
	2.4.6. Transfer function $f(x)$.	25
	2.4.7. Hypothesis: Performance acceptance criterion.	25
	2.4.8. Number of iteration (epochs 'e') for training.	25
	2.4.9. Optimization of learning rate (α) and momentum factor (μ).	25
	2.5. Results and Discussions.	36
	2.6 Conclusion.	40
CHAPTER – 3.	Application of BPN in Time Series Forecast.	46

3.1.	Introduction.	47
3.2.	BPN in time series forecast.	48
3.2.1.	About Dataset.	48
3.2.2.	Modelling.	48
3.2.3.	Training (Learning).	50
3.2.4.	Performance.	50
3.3.	Results and Discussions.	54
3.4.	Conclusions.	59
CHAPTER – 4.	Application of BPN in Parametric Forecast.	61
4.1.	Introduction.	62
4.2.	BPN in parametric forecast.	63
4.2.1.	About Dataset.	63
4.2.2.	Modelling.	64
4.2.3.	Training (Learning).	66
4.2.4.	Performance.	69
4.2.5.	Relative analysis of BPN in non parametric and parametric forecast.	74
4.2.6.	Results and discussions.	75
4.3.	Conclusions.	77
CHAPTER – 5.	Application of BPN in Principal Component Parametric Forecast.	80
5.1.	Introduction	81
5.2.	BPN model in principal component parametric forecast.	81
5.2.1.	About Dataset.	81
5.2.2.	Modeling.	82
5.2.3.	Training (Learning).	85
5.2.4.	Performance.	86
5.2.5.	Relative analysis of performance of BPN in parametric and PC parametric forecast.	91
5.2.6.	Results and discussions.	93
5.3.	Conclusions.	95
CHAPTER – 6.	Overall observations and findings.	97

	6.1.	Design constraints of BPN architecture.	98
	6.2.	Performance of BPN in time-series forecast.	99
CHAPTER - 1	6.3.	Performance of BPN in parametric forecast.	100
	6.4.	Performance of BPN in PC parametric forecast.	100
	6.5.	Future scope BPN.	106
	6.6.	Limitations of modeling through BPN.	107
REFERENCES.			109

	3.4	Conclusions.	
	3.3	Results and Discussion.	
	3.2	Modeling.	
	3.1	Introduction.	
CHAPTER - 4	4.1	Introduction.	
	4.2	BPN in parametric forecast.	
	4.3	Conclusions.	
	4.4	Relative analysis of BPN in non parametric and parametric forecast.	
	4.5	Results and Discussion.	
	4.6	Modeling.	
	4.7	Training (Learning).	
	4.8	Performance.	
	4.9	Design Constraints of BPN in Parametric Forecast.	
	4.10	Application of BPN in Principal Component Parametric Forecast.	
	4.11	Introduction.	
	4.12	BPN model in principal component parametric forecast.	
	4.13	Conclusions.	
	4.14	Relative analysis of BPN in non parametric and parametric forecast.	
	4.15	Results and Discussion.	
	4.16	Modeling.	
	4.17	Training (Learning).	
	4.18	Performance.	
	4.19	Design Constraints of BPN in Parametric and PC Parametric Forecast.	
	4.20	Application of BPN in Principal Component Parametric Forecast.	
	4.21	Introduction.	
	4.22	BPN model in principal component parametric forecast.	
	4.23	Conclusions.	
	4.24	Relative analysis of BPN in non parametric and parametric forecast.	
	4.25	Results and Discussion.	
	4.26	Modeling.	
	4.27	Training (Learning).	
	4.28	Performance.	
	4.29	Design Constraints of BPN in Parametric and PC Parametric Forecast.	
	4.30	Application of BPN in Principal Component Parametric Forecast.	
	4.31	Introduction.	
	4.32	BPN model in principal component parametric forecast.	
	4.33	Conclusions.	
	4.34	Relative analysis of BPN in non parametric and parametric forecast.	
	4.35	Results and Discussion.	
	4.36	Modeling.	
	4.37	Training (Learning).	
	4.38	Performance.	
	4.39	Design Constraints of BPN in Parametric and PC Parametric Forecast.	
	4.40	Application of BPN in Principal Component Parametric Forecast.	
	4.41	Introduction.	
	4.42	BPN model in principal component parametric forecast.	
	4.43	Conclusions.	
	4.44	Relative analysis of BPN in non parametric and parametric forecast.	
	4.45	Results and Discussion.	
	4.46	Modeling.	
	4.47	Training (Learning).	
	4.48	Performance.	
	4.49	Design Constraints of BPN in Parametric and PC Parametric Forecast.	
	4.50	Application of BPN in Principal Component Parametric Forecast.	
	4.51	Introduction.	
	4.52	BPN model in principal component parametric forecast.	
	4.53	Conclusions.	
	4.54	Relative analysis of BPN in non parametric and parametric forecast.	
	4.55	Results and Discussion.	
	4.56	Modeling.	
	4.57	Training (Learning).	
	4.58	Performance.	
	4.59	Design Constraints of BPN in Parametric and PC Parametric Forecast.	
	4.60	Application of BPN in Principal Component Parametric Forecast.	
	4.61	Introduction.	
	4.62	BPN model in principal component parametric forecast.	
	4.63	Conclusions.	
	4.64	Relative analysis of BPN in non parametric and parametric forecast.	
	4.65	Results and Discussion.	
	4.66	Modeling.	
	4.67	Training (Learning).	
	4.68	Performance.	
	4.69	Design Constraints of BPN in Parametric and PC Parametric Forecast.	
	4.70	Application of BPN in Principal Component Parametric Forecast.	
	4.71	Introduction.	
	4.72	BPN model in principal component parametric forecast.	
	4.73	Conclusions.	
	4.74	Relative analysis of BPN in non parametric and parametric forecast.	
	4.75	Results and Discussion.	
	4.76	Modeling.	
	4.77	Training (Learning).	
	4.78	Performance.	
	4.79	Design Constraints of BPN in Parametric and PC Parametric Forecast.	
	4.80	Application of BPN in Principal Component Parametric Forecast.	
	4.81	Introduction.	
	4.82	BPN model in principal component parametric forecast.	
	4.83	Conclusions.	
	4.84	Relative analysis of BPN in non parametric and parametric forecast.	
	4.85	Results and Discussion.	
	4.86	Modeling.	
	4.87	Training (Learning).	
	4.88	Performance.	
	4.89	Design Constraints of BPN in Parametric and PC Parametric Forecast.	
	4.90	Application of BPN in Principal Component Parametric Forecast.	
	4.91	Introduction.	
	4.92	BPN model in principal component parametric forecast.	
	4.93	Conclusions.	
	4.94	Relative analysis of BPN in non parametric and parametric forecast.	
	4.95	Results and Discussion.	
	4.96	Modeling.	
	4.97	Training (Learning).	
	4.98	Performance.	
	4.99	Design Constraints of BPN in Parametric and PC Parametric Forecast.	
	4.100	Application of BPN in Principal Component Parametric Forecast.	

Forecasting of long range meteorological data time series especially monsoon rainfall becomes a challenging operational task for world's scientists and meteorologists. To forecast, identification of the internal variability of the chaotic nature of meteorological data time series becomes a demanding subject because its chaotic behavior is almost unpredictable. It is found that statistical models are unsuccessful remarkably in case of forecasting of chaotic motion. It has been also observed that, statistical models are not sufficient enough to identify the internal dynamics of highly non-linear chaotic data time series.

The subject material of this book is to represent approaches of Back-propagation neural network (BPN) based modeling of rainfall for forecasting. Three approaches i.e.,
BPN in time series forecast.
BPN in Parametric forecast.
BPN Principal Component Parametric forecast.
in terms of their applied datasets, modeling, training and performances at training and testing period are presented.

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