

I N D E X

CHAPTER	0	ARTIFICIAL NEURAL NETWORK AND STATISTICS	1
	0.1	Artificial Neural Network and Statistics	1
	0.2	Chapterwise Summary	2
CHAPTER	I	INTRODUCTION TO ARTIFICIAL NEURAL NETWORK	4
	1.1	Introduction	4
	1.2	Biological Neural Network	4
	1.3	Artificial Neural Network(ANN)	10
	1.4	Learning Process of ANN	20
	1.5	Brief History of ANN	22
	1.6	Neural Computations : Some Applications	25
CHAPTER	II	SINGLE LAYER ARTIFICIAL NEURAL NETWORK	27
	2.1	Introduction	27
	2.2	McCulloch-Pitts Artificial Neuron Model	27
	2.3	ANN with Nonlinear Activation Function	40
CHAPTER	III	MULTILAYER ARTIFICIAL NEURAL NETWORK	51
	3.1	Introduction	51
	3.2	ANN and Classification	52
	3.3	Multilayer Network	62
	3.4	Training of Multilayer Network	66
	3.5	Additional Comments on Training Parameters	78

CHAPTER	IV	APPLICATION OF ARTIFICIAL NEURAL NETWORK IN DISCRIMINANT AND REGRESSION ANALYSIS	86
	4.1	Introduction	86
	4.2	ANN and Discriminant Analysis	87
	4.3	ANN and Regression Analysis	94
	4.4	Concluding Remarks	110
CHAPTER	V	ARTIFICIAL NEURAL NETWORK AND TESTING OF HYPOTHESIS	112
	5.1	Introduction	112
	5.2	ANN Model for Hypothesis Testing	115
	5.3	P-PK Learning Rule	120
		APPENDIX - A	126
		APPENDIX - B	129
		APPENDIX - C(1)	134
		APPENDIX - C(2)	137
		BIBLIOGRAPHY	143