LIST OF FIGURES

Figure No.	Name	Page No.
Fig. 1.1	Building Blocks of Electric Power System	2
Fig. 1.2	The studied system with sources at both ends	5
Fig. 2.1	Classification of Short Circuit faults	7
Fig. 2.2	Symmetrical Faults	7
Fig. 2.3	Unsymmetrical Faults	7
Fig. 3.1	Subsets of Artificial Intelligence	16
Fig. 3.2	Artificial Neural network	17
Fig. 3.3	A biological Neuron	18
Fig. 3.4	Perceptron	19
Fig. 3.5	Deep Neural Network	23
Fig. 3.6	Impact of data available on the performance of networks	24
Fig. 3.7	Recurrent neural network and the unfolding in rime	25
Fig. 4.1	MATLAB	27
Fig. 4.2	Simulink Model	29
Fig. 4.3	Classification breadboard	30
Fig. 4.4	Training curves fault detection and classification	30
Fig. 4.5	Training curves for fault location identification	31
Fig. 5.1	Application of the proposed method in smart grids	34