

## LIST OF FIGURES

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