Neuro & Fuzzy System Lab				
Paper Code:	ETEE-452	L	T/P	C
Paper:	Neuro & Fuzzy System Lab	0	2	1

Course Outcome:	
At the end of Course the students will be able to:	
CO.ETEE452.	Create an artificial Neural Network toolbox in Sci-Lab
CO.ETEE452.	Implement Various Learning algorithm in artificial neural network in Scilab
CO.ETEE452.	Evaluate various architecture of Neuro fuzzy hybrid learning algorithm in Scilab
CO.ETEE452.	Design a controller using Fuzzy/Neural Network

List of Experiments

1	Design a neural network using neural network toolbox, which identify the given data set. P= [0 1 2 3 4 5 6 7 8 9 10]; (Given input data) T= [0 1 2 3 4 3 2 1 2 3 4]; (Given output data)
2	Write a program to implement AND function using perception networks with bipolar inputs and outputs.
3	Write a program to implement AND function using ADALINE with bipolar inputs and outputs.
4	Implement a Back Propagation network for a given input pattern by a suitable MATLAB program. Perform 3 epochs of operation.
5	Write a program to construct and test auto-associative network for input vector using HEBB/Outer Product Rule.
6	Write a program to construct and test hetero associative network for binary inputs and targets using HEBB/Outer Product Rule
7	Consider the following fuzzy sets. Calculate A U B,A ∩B,A',B' by using a MATLAB Program
8	Find the fuzzy relation using fuzzy max-min method for the following Using MATLAB program
9	Using MATLAB programming to draw triangular and Gaussian membership function. Given x=0 to 10 with increment of 0.1. Triangular membership function is defined between [5 6 7] and Gaussian membership is defined between 2 and 4.
10	Using MATLAB program find the crisp lambda cut set relation for lambda=0.6.
11	Write a Matlab program/GATOOL for maximizing/minimizing a function.
12	Design a Controller using Fuzzy /Neural Network/ANFIS Editor

NOTE:- At least 8 Experiments out of the list must be done in the semester.

List of Experiments

Exp No	CO	Experiment
Exp 1	CO1	Design a neural network using neural network toolbox, which identify the given data set. P= [0 1 2 3 4 5 6 7 8 9 10]; (Given input data) T= [0 1 2 3 4 3 2 1 2 3 4]; (Given output data)
Exp 2	CO1	Write a program to implement AND function using perception networks with bipolar inputs and
Exp 3	CO1	Write a program to implement AND function using ADALINE with bipolar inputs and outputs.
Exp 4	CO2	Implement a Back Propagation network for a given input pattern by a suitable MATLAB progran Perform 3 epochs of operation.
Exp 5	CO2	Write a program to construct and test auto-associative network for input vector using HEBB/Ou Product Rule.
Exp 6	CO2	Write a program to construct and test hetero associative network for binary inputs and targets HEBB/Outer Product Rule
Exp 7	CO3	Consider the following fuzzy sets. Calculate A U B,A ∩ B,A',B' by using a MATLAB Program
Exp 8	CO3	Find the fuzzy relation using fuzzy max-min method for the following Using MATLAB program
Exp 9	CO3	Using MATLAB programming to draw triangular and Gaussian membership function. Given x=0 10 with increment of 0.1. Triangular membership function is defined between [5 6 7] and Gaussi membership is defined between 2 and 4.
Exp 10	CO3	Using MATLAB program find the crisp lambda cut set relation for lambda=0.6.
Extra 1	CO4	Write a Matlab program/GATOOL for maximizing/minimizing a function.
Extra 2	CO4	Design a Controller using Fuzzy /Neural Network/ANFIS Editor