Data1

numHidden = 2; % Change this, Number of hidde neurons(arbitrary)

numIterations = 100; % Change this, Numner of iterations (Epochs)

learningRate = 0.0005;

W0 = [(rand(n,numHidden))]; % 3 by 2

V0 = [(rand((numHidden+1),m)]; % 2+1(bias) by 2

cM =

498 2

5 495

acc =

0.9930

Time spent training: 3.6571 sec

Time spent calssifying 1 feature vector: 1.3629e-05 sec

Accuracy: 0.993

Data2

numHidden = 2; % Change this, Number of hidde neurons(arbitrary)

numIterations = 100; % Change this, Numner of iterations (Epochs)

learningRate = 0.0005; % Change this, Your learningrate

W0 = [(rand(n,numHidden))]; % 3 by 2

V0 = [(rand((numHidden+1),m)]; % 2+1(bias) by 2

cM =

496 4

0 500

acc =

0.9960

Time spent training: 3.6251 sec

Time spent calssifying 1 feature vector: 1.3364e-05 sec

Accuracy: 0.996

Data3

numHidden = 6; % Change this, Number of hidde neurons(arbitrary)

numIterations = 1000; % Change this, Numner of iterations (Epochs)

learningRate = 0.0001;

n = size(Xtraining,1); % number of features 3

m = length(unique(Lt{1})); % number of neurons 2

W0 = [(rand(n,numHidden))]; % 3 by 2

V0 = [(rand((numHidden+1),m)]; % 2+1(bias) by 2

cM =

332 1 0

0 333 0

0 1 332

acc =

0.9980

Time spent training: 37.4372 sec

Time spent calssifying 1 feature vector: 1.3682e-05 sec

Accuracy: 0.998

Data 4

numHidden = 150; % Change this, Number of hidde neurons(arbitrary)

numIterations = 2000; % Change this, Numner of iterations (Epochs)

% For 150 hidden: 0.00001

learningRate = 0.00001; % Change this, Your learningrate

n = size(Xtraining,1); % number of features 3

m = length(unique(Lt{1})); % number of neurons 2

W0 = [0.0005 \* (rand(n,numHidden) - 0.6)]; % 3 by 2

V0 = [0.0005 \* (rand((numHidden+1),m) - 0.6)]; % 2+1(bias) by 2

cM =

276 0 0 0 0 0 0 0 0 1

0 271 0 1 0 0 0 2 1 2

1 0 271 2 0 0 1 0 1 1

0 0 4 261 0 7 0 2 2 1

0 0 0 0 270 0 1 0 0 6

0 0 2 0 1 264 3 0 1 6

0 2 0 0 0 0 274 0 0 1

0 0 0 2 1 0 0 265 2 7

0 4 0 1 0 1 1 0 264 6

0 1 0 1 0 4 0 4 1 266

acc =

0.9682

Time spent training: 1115.6375 sec

Time spent calssifying 1 feature vector: 3.2835e-05 sec

Accuracy: 0.96823

numHidden = 256; % Change this, Number of hidde neurons(arbitrary)

numIterations = 2900; % 600Change this, Numner of iterations (Epochs)

learningRate = 0.000048; % Change this, Your learningrate

n = size(Xtraining,1); % number of features 3

m = length(unique(Lt{1})); % number of neurons 2

W0 = [0.2 \* (rand(n,numHidden) - 0.5)]; % 3 by 2

V0 = [0.2 \* (rand((numHidden+1),m) - 0.5)]; % 2+1(bias) by 2

cM =

273 0 1 0 2 0 1 0 0 0

0 270 4 0 1 0 0 1 1 0

0 2 268 0 0 0 0 4 2 1

0 0 2 265 0 1 1 4 2 2

0 3 0 0 266 0 1 1 0 6

0 0 0 2 1 267 0 0 4 3

2 2 1 0 1 2 266 0 3 0

0 4 1 0 0 1 0 266 0 5

1 6 0 1 0 1 0 0 266 2

2 5 0 3 0 0 0 2 0 265

acc =

0.9646

Time spent training: 1739.634 sec

Time spent calssifying 1 feature vector: 5.0345e-05 sec

Accuracy: 0.96462