Method

Get Dataset
Preprocessing input f(x) = (x-min)/(max-min)
10% Cross-Validation with suffer
For all structure
    For all Learning Rate and Momentum rate
        For all Flood Validation
                Correctly = Train and Test MLP

        Get Mean Correctly of all flood

Create Report

Report

*Best Prototype (Red Color)

Cross.pat

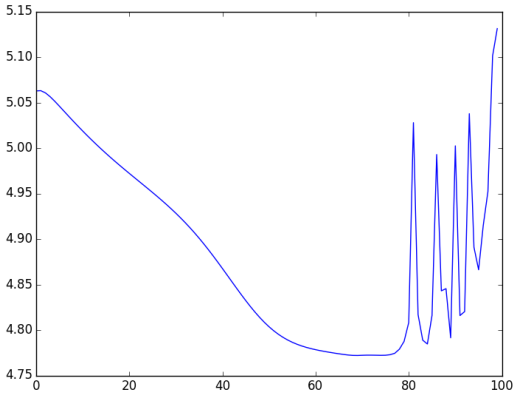
Structure	Learning, Momentum Rate	Epoch	Mean Correctly Ratio
2-5-2	0.01	100	0.460
2-5-2	0.05	100	0.475
2-5-2	0.10	100	0.835
2-5-2	0.20	100	0.900
2-10-2	0.01	100	0.460
2-10-2	0.05	100	0.580
2-10-2	0.10	100	0.870
2-10-2	0.20	100	0.890
2-15-2	0.01	100	0.465
2-15-2	0.05	100	0.605
2-15-2	0.10	100	0.665
2-15-2	0.20	100	0.600
2-5-5-2	0.01	100	0.460
2-5-5-2	0.05	100	0.460
2-5-5-2	0.10	100	0.460
2-5-5-2	0.20	100	0.460

Iris.pat

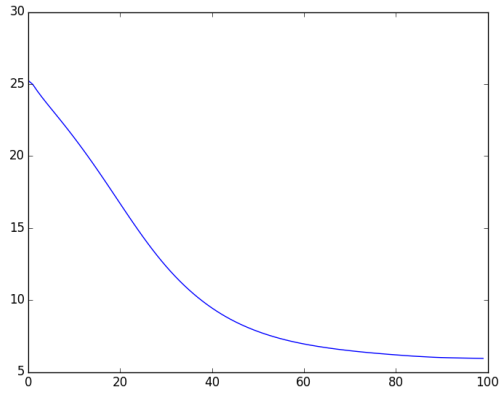
Structure	Learning, Momentum Rate	Epoch	Mean Correctly Ratio
2-5-2	0.01	100	0.873
2-5-2	0.05	100	0.953
2-5-2	0.10	100	0.967
2-5-2	0.20	100	0.967
2-10-2	0.01	100	0.847
2-10-2	0.05	100	0.953
2-10-2	0.10	100	0.980
2-10-2	0.20	100	0.973
2-15-2	0.01	100	0.880
2-15-2	0.05	100	0.953
2-15-2	0.10	100	0.980
2-15-2	0.20	100	0.980
2-5-5-2	0.01	100	0.300
2-5-5-2	0.05	100	0.953
2-5-5-2	0.10	100	0.967
2-5-5-2	0.20	100	0.967

Summary

Number of hidden layer and number node of hidden layer direct variation with number node in input and output layer. If you use the large learning rate it's fast to go to optimal but it will swing. Otherwise if you use the small learning rate it's slow to go to optimal but it won't swing.



(Large Learning Rate)



(Small Learning Rate)

Code

You can see all code and error graph in github by this link.

https://github.com/bongtrop/IntroCI