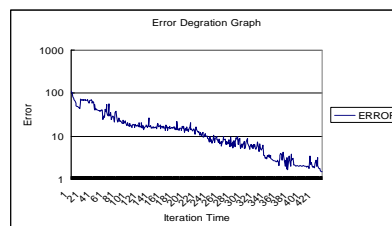


## Neural Network(Digit recognition)

Jeong Dong Hyun

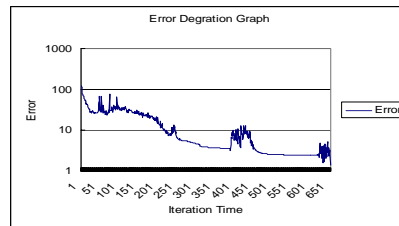
## BackPropagation(ACON)

- Training Data : 2400
  - Number Input Pattern : 2400
  - Number Input Node : 96
  - Number Hidden Node : 48
  - Number Output Node : 10
  - Total Iteration Time : 434
  - Last Checked Error : 1.4794 (<1.5)



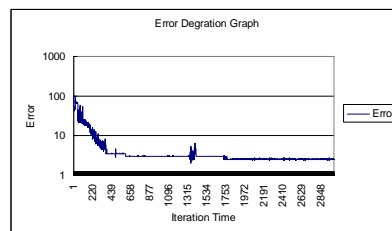
## BackPropagation(ACON)

- Training Data : 2400
  - Number Input Pattern : 2400
  - Number Input Node : 96
  - Number Hidden Node : 32
  - Number Output Node : 10
  - Total Iteration Time : 656
  - Last Checked Error : 1.4226 (<1.5)



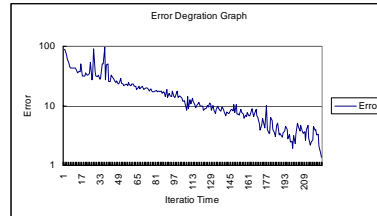
## BackPropagation(ACON)

- Training Data : 2400
  - Number Input Pattern : 2400
  - Number Input Node : 96
  - Number Hidden Node : 96
  - Number Output Node : 10
  - Total Iteration Time : 3000
  - Last Checked Error : 2.4792 (? <1.5)



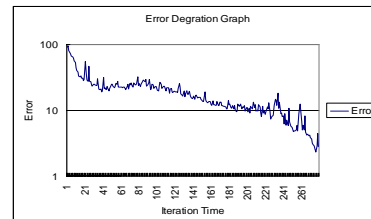
# BackPropagation(ACON)

- Training Data : 1600
  - Number Input Pattern : 1600
  - Number Input Node : 96
  - Number Hidden Node : 48
  - Number Output Node : 10
  - Total Iteration Time : 224
  - Last Checked Error : 1.3805 (<1.5)
  - Total Test Data Number : 800
  - Recognized Number : 720
  - Percent : 87.5



# BackPropagation(ACON)

- Training Data : 1600
  - Number Input Pattern : 1600
  - Number Input Node : 96
  - Number Hidden Node : 32
  - Number Output Node : 10
  - Total Iteration Time : 364
  - Last Checked Error : 1.3405 (<1.5)
  - Total Test Data Number : 800
  - Recognized Number : 693
  - Percent : 86.625



# Recognition



Input Node : 96  
 Hidden Node : 32  
 Output Node : 10

User Input

Sorted Result Output

# How to use?



## How to Run

1. Click the Grid Board
2. Select Weight File
3. Draw a feature (such as digit 0 to 9)
4. Click RUN Button

## Weight File Format

```

<Input Node number>
<Hidden Node number>
<Output Node number>
<Weight Data between Input Node and Hidden Node>
    (Each line has (# of Input Node) weight data)
<Weight Data between Hidden Node and Output Node>
    (Each line has (# of Hidden Node) weight data)
  
```