

nnCoreV1 V.S. nnCoreV2

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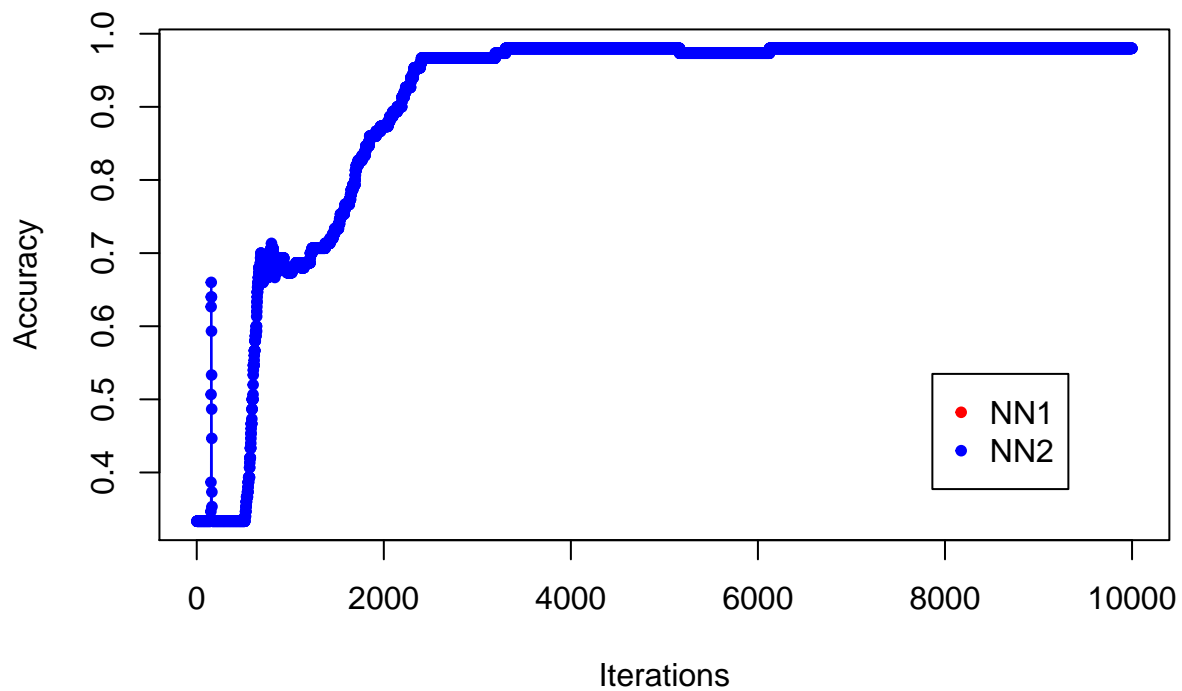
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Iris Dataset

```
library(nnCore)
# Iris
irisNN1 <- nnCoreV1$new(Species ~ ., data = iris, hidden = 6)
irisNN1$train(9999, trace = 1e3, learn_rate = .0001)

## Iteration 1000   Loss 149.408351577994   Accuracy 0.673333333333333
## Iteration 2000   Loss 80.5010683307066   Accuracy 0.873333333333333
## Iteration 3000   Loss 64.3494703105786   Accuracy 0.966666666666667
## Iteration 4000   Loss 52.261550576377    Accuracy 0.98
## Iteration 5000   Loss 42.2802371071695   Accuracy 0.98
## Iteration 6000   Loss 34.7514457764623   Accuracy 0.973333333333333
## Iteration 7000   Loss 29.2833452690714   Accuracy 0.98
## Iteration 8000   Loss 25.3153791397602   Accuracy 0.98
## Iteration 9000   Loss 22.3838964558104   Accuracy 0.98

irisNN2 <- nnCoreV2$new(Species ~ ., data = iris, hidden = 6)
suppressMessages(irisNN2$train(9999, trace = 1e3, learn_rate = .0001))
compareNN(irisNN1, irisNN2)
```



```
## Infert Dataset
```

```
# infertility
```

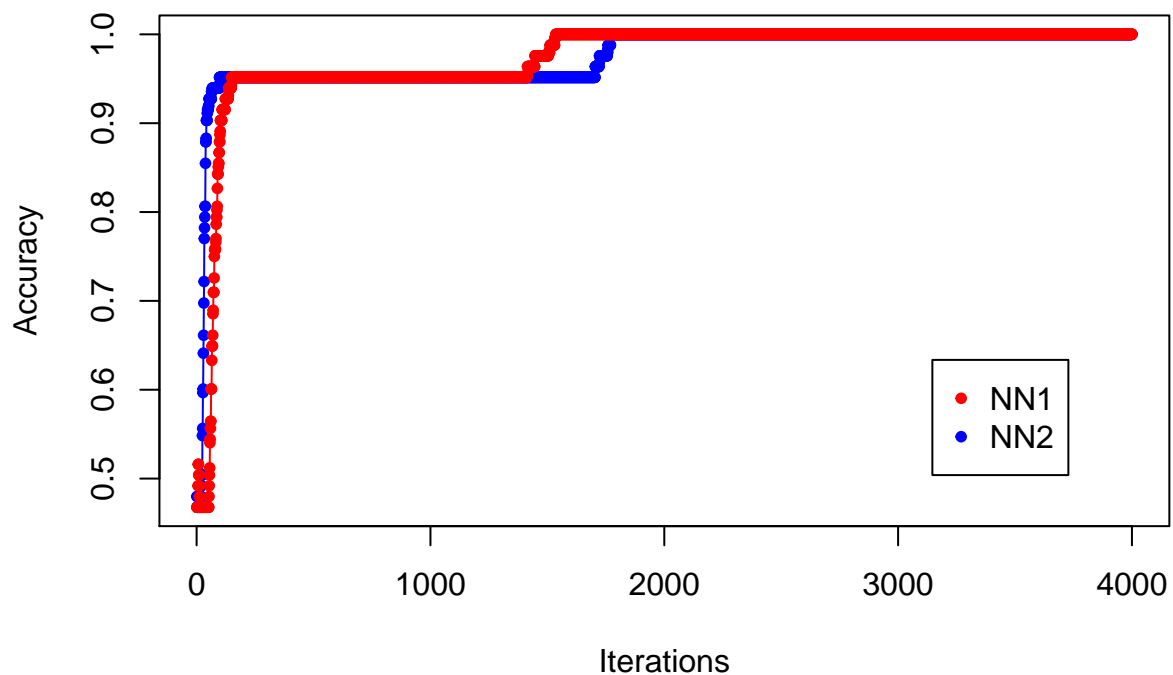
```
infertNN1 <- nnCoreV1$new(education ~ ., data= infert, hidden = 6)
```

```
suppressMessages(infertNN1$train(4000, trace = 1e3, learn_rate = .0001))
```

```
infertNN2 <- nnCoreV2$new(education ~ ., data= infert, hidden = 6, plotData = T)
```

```
suppressMessages(infertNN2$train(4000, trace = 1e3, learn_rate = .0001))
```

```
compareNN(infertNN1, infertNN2)
```



```
## Higgs Boson Prediction
```

```
# Higgs Boson Prediction
```

```
higgsDat <- read.csv("C:/Users/hsamuelson/Desktop/R/Higgs/training/training.csv")
```

```
higgsDat <- higgsDat[,-1]
```

```
higgsNN1 <- nnCoreV1$new(Label ~ ., data= higgsDat[1:150,], hidden = 30)
```

```
suppressMessages(higgsNN1$train(9999, trace = 1e3, learn_rate = .0001))
```

```
higgsNN2 <- nnCoreV2$new(Label ~ ., data= higgsDat[1:150,], hidden = 30, plotData = T)
```

```
suppressMessages(higgsNN2$train(9999, trace = 1e3, learn_rate = .0001))
```

```
compareNN(higgsNN1, higgsNN2)
```

