LECTURE 7-2

# APPLICATION & TIPS: LEARNING & TEST DATA SETS

Sung Kim <hunkim+ml@gmail.com> http://hunkim.github.io/ml

#### Performance Evaluation: Is This Good?

# **Evaluation Using Training Set?**

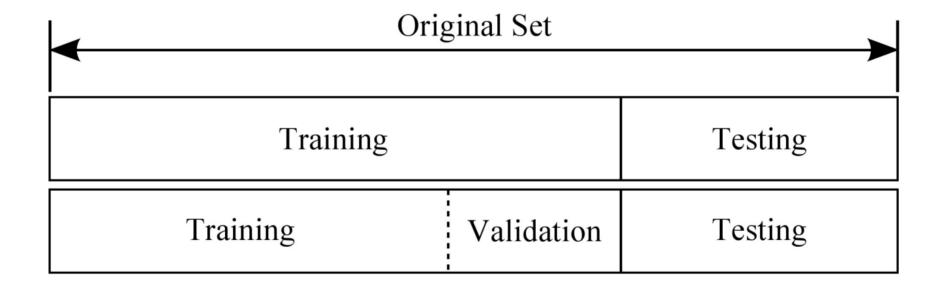
- · 100% Correct (Accuracy)
- · Can Memorize

Size	Price
2104	400
1600	330
2400	369
1416	232
3000	540
1985	300
1534	315
1427	199
1380	212
1494	243
3000 1985 1534 1427 1380	540 300 315 199 212

## **Training and Test Sets**

Size	Price
2104	400
1600	330
2400	369
1416	232
3000	540
1985	300
1534	315
1427	199
1380	212
1494	243

#### Training, Validation and Test Sets



# **Online Learning**



#### **MNIST Dataset**

```
2221222222222222
33333333333333
65555555555555555
```

train-images-idx3-ubyte.gz
training set images (9912422 bytes)

train-labels-idx1-ubyte.gz training set labels (28881 bytes)

t10k-images-idx3-ubyte.gz test set images (1648877 bytes)

t10k-labels-idx1-ubyte.gz test set labels (4542 bytes)

### Accuracy

- · How many of your predictions are correct?
- · 95% ~ 99%?
- · Check out the lab video

#### **NEXT LECTURE**

# DEEP NEURAL NETS!