









Error Analysis

Cleaning up

deeplearning.ai Incorrectly labeled
data

Incorrectly labeled examples

| | | | | | | | |
|---|---|---|----------|---|---|---|---|
| x |  |  | |  |  |  |  |
| y | <u>1</u> | <u>0</u> | <u>1</u> | <u>1</u> | <u>0</u> | <u>1</u> | 1 |


Training set.

↑




DL algorithms are quite robust to random errors in the training set.

Systematic errors

Error analysis



| Image | Dog | Great Cat | Blurry | Incorrectly labeled | Comments |
|------------|-----|-----------|--------|---------------------|-----------------------------------|
| ... | | | | | |
| 98 | | | | ✓ | Labeler missed cat in background |
| 99 | | ✓ | | | |
| 100 | | | | ✓ | Drawing of a cat; Not a real cat. |
| % of total | 8% | 43% | 61% | 6% | |

Overall dev set error 10%

Errors due incorrect labels 0.6% ←

Errors due to other causes 9.4% ←
↑

✓ 2%
 ↓
 0.6%
 —
 1.4%
 2.1%
1.9%

Goal of dev set is to help you select between two classifiers A & B.

Correcting incorrect dev/test set examples

- Apply same process to your dev and test sets to make sure they continue to come from the same distribution
- Consider examining examples your algorithm got right as well as ones it got wrong. 2%
- Train and dev/test data may now come from slightly different distributions.