

Structuring Machine Learning Projects Week 1

Satisfying and Optimizing metric

Another cat classification example

| Classifier | Accuracy | Running time |
|------------|----------|--------------|
| A | 90% | 80ms |
| B | 92% | 95ms |
| C | 95% | 1,500ms |

Handwritten notes:

Optimizing (pointing to Accuracy)
Satisficing (pointing to Running time)

Wakewords / Trigger words
Alexa, OK Google,
Hey Siri, nihao baidu
你好百度

Cost = accuracy - 0.5 x Running Time

Maximize accuracy
Subject to Running Time \leq 100 ms.

N metrics: 1 optimizing
N-1 satisficing

accuracy.
#false positive

maximize accuracy.
s.t. \leq 1 false positive
every 24 hrs

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Optimizing metric

- Do better as well as possible

Satisficing metric

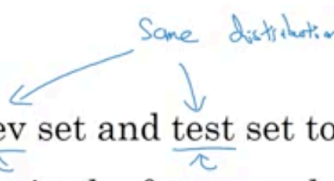
- Just satisfy it

Train / dev / test distributions

Train/dev/test distributions

Guideline

Choose a dev set and test set to reflect data you expect to get in the future and consider important to do well on.



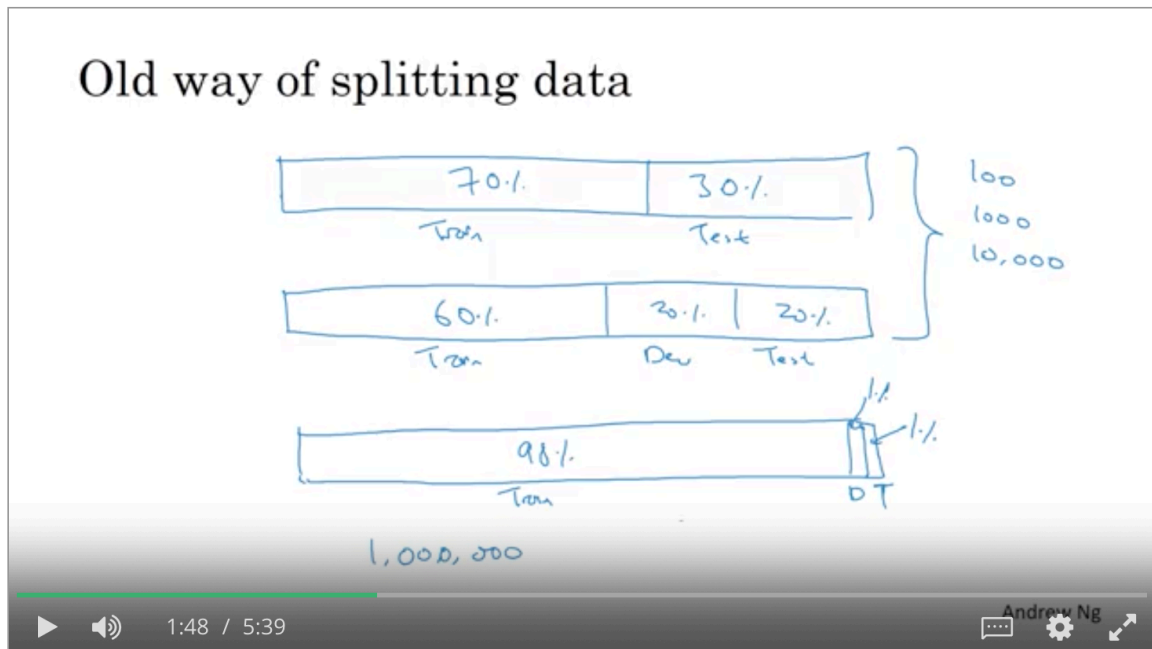
The diagram consists of the handwritten text "Same distribution" in blue ink at the top. Two blue arrows point downwards from this text to the underlined words "dev" and "test" in the sentence below. Additionally, there are small blue arrows pointing upwards from the underlined words "get in the future" and "consider important to do well on." towards the "dev" and "test" words respectively.

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- Choose dev and test set from same distribution
- Train set can be chosen from different distribution

Size of dev and test set

Size of the dev and test sets



Improving your model performance

Improving your model performance

