1. Orthogonalization

* Fit training set well in cost function
  + If it doesn’t fit well, the use of a bigger neural network or switching to a better optimization algorithm might help.
* Fit development set well on cost function
  + If it doesn’t fit well, regularization or using bigger training set might help.
* Fit test set well on cost function
  + If it doesn’t fit well, the use of a bigger development set might help
* Performs well in real world
  + If it doesn’t perform well, the development test set is not set correctly or the cost function is not evaluating the right thing.

1. Single number evaluation metric

|  |  |  |
| --- | --- | --- |
| predict actual | 1 | 0 |
| 1 | True positive | False positive |
| 0 | False negative | True negative |

1. Satisficing and optimizing metric

For example: Accuracy and Running time

4. When to change development/test sets and metrics?