

Cross-Validation

In []:

```
from sklearn.datasets import load_digits
```

In []:

```
digits = load_digits()  
X = digits.data  
y = digits.target
```

In []:

```
from sklearn.cross_validation import cross_val_score  
from sklearn.svm import LinearSVC
```

In []:

```
cross_val_score(LinearSVC(), X, y)
```

In []:

```
cross_val_score(LinearSVC(), X, y, cv=5, scoring="f1_macro")
```

Let's go to a binary task for a moment (even vs uneven)

In []:

```
y % 2
```

In []:

```
cross_val_score(LinearSVC(), X, y % 2, scoring="average_precision")
```

In []:

```
cross_val_score(LinearSVC(), X, y % 2, scoring="roc_auc")
```

There are other ways to do cross-validation

In []:

```
from sklearn.cross_validation import ShuffleSplit  
shuffle_split = ShuffleSplit(len(X), 10, test_size=.4)  
cross_val_score(LinearSVC(), X, y, cv=shuffle_split)
```

In []: