

slow_vs_fast

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```
[1]: from sklearn.datasets import make_classification

X, y = make_classification(n_features=30, n_samples=10000, random_state=0)
y[y!=1] = -1
```

```
[2]: from old.decisionstump import DecisionStump #slow version
     from model.decisionstump import BinaryDecisionStump # fast version
```

```
[5]: import numpy as np

D = np.full((10000,), 1/10000)
D.sum()
```

```
[5]: 1.0000000000000004
```

```
[16]: %%timeit
      old = DecisionStump()
      old.fit(X, y, D)
```

769 ms \pm 16.3 ms per loop (mean \pm std. dev. of 7 runs, 1 loop each)

```
[17]: %%timeit
      fast = BinaryDecisionStump()
      u = fast.preprocessing(X)
      fast.fit(X, y, D, u)
```

33.3 ms \pm 1.47 ms per loop (mean \pm std. dev. of 7 runs, 10 loops each)

```
[ ]:
```