# Reality Check Hypothesis Test

Performance statistic:

$$\bar{f} = n^{-1} \sum_{t=R}^{T} \hat{f}_{t+1}, \qquad \bar{f} \in R^L$$

*L*- number of trading rules

 $\{f_k\}$ - excess log return of trading rule over benchmark Does the best trading rule outperform the benchmark?

$$H_0: \max_{k=1,...,L} \{E(f_k)\} \leq 0$$

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# Our "Universe" of trading rules

### Moving-Average Crossover Rule:

Fast MA - 
$$n_1 = 5$$
,  $n_2 = 10$   
Slow MA -  $m_1 = 50$ ,  $m_2 = 150$ 

#### **Trading Signals:**

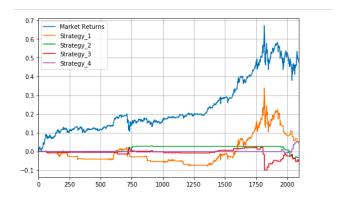
- Fixed percentage band filter: b = 0.01
- Time delay filter: d = 5
- Position held filter (ignore all other signals): c=10

**Result:** p = 0.44

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# Moving Average Crossover vs. Buy-and-Hold



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