CS229 - Stanford:

Data collection:

* Source: Bloomberg Database
* Period: 1/9/200/ - 11/8/2013 (1471 data points), daily.
* Label:
  + 1 if the closing price is higher than the previous day
  + -1 otherwise

|  |  |
| --- | --- |
| Stocks | 3M co (NYSE: MMM) |
| Features | PE ratio, PX volume, PX ebitda, current enterprise value, 2-day  net price change, 10-day volatility, 50-day moving average, 10-day moving average, quick ratio, alpha overridable, alpha for beta pm, beta raw overridable, risk premium, IS EPS, and corresponding S&P 500 index |

Computational Intelligence and Neuroscience Journal

Financial Time Series Prediction Using Elman Recurrent Random Neural Networks

Data:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Index | Date sets | Total number | Hidden number | Learning rate |
| SSE | 16/03/2006~19/03/2014 | 2000 | 9 | 0.001 |
| TWSE | 09/02/2006~19/03/2014 | 2000 | 12 | 0.001 |
| KOSPI | 20/02/2006~19/03/2014 | 2000 | 10 | 0.05 |
| Nikkei225 | 27/01/2006~19/03/2014 | 2000 | 10 | 0.01 |

Method: recurrent neural network with Stochastic time effective function

Model evaluation: complexity invariant distance (CID) for time series: differences between two time-series as a correction factor for existing distance measures. Used Euclidean distance norm 2

Black box methods are appealing because they require no prior assumptions or knowledge of the underlying dynamics of the time series data

But it is difficult to tune and train