Forecasting stock market movement direction with SVM

Huang, Nakamori, Wang

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SVMs are used because:

- regularisation on the decision function } resistant to overfitting
- sparsity of the solution (many coeffs are zero)
- unique and globally optimal solution

Experiment

- Examining weekly changes of the NIKKEI 225. (C=50, kernel= gaussian)
- Inputs: SP500, USD/JPY exchange.

$$\text{Direction}_t = F(S_{t-1}^{SP500}, S_{t-1}^{JPY})$$

Direction ∈ $\{-1, 1\}$; inputs are log differences

- Weekly data from Jan 1990 to Dec 2002, 676 observations.
- Compared with naïve random walk, LDA, QDA, RNN, and a combined model.
- SVM had a hit ratio of 73%, RNN 69%, combined model was the best with 75%

Comments

- Rather poorly written, with misleading grammatical errors
- The bulk of the paper is standard SVM theory, could be copied from a textbook
- Very vague experiment design: doesn't seem to be reproduceable → parameters for the RNN?
- Small dataset
- No self-criticism / limitations
- No comments on actually using it to trade.

A'ZONE