TQF Final Project Proposal

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Project Goal

Try to predict whether the stock price would go up or down compared to the stock index, for example Shanghai Composite Index. The multi-factor model is popular in stock price prediction, however the linear model is not efficient sometimes. So I would like to apply some other machine learning methods to see whether it would work more efficient.

Date Sources:

Wind Financial Database

Method:

Mainly SVM and Logistic regression. PCA and linear regression may be used to filtrate the factors.

More Details:

1. Choose an index and find the stocks which compose the index. And try to obtain the data of as many factors as I can.

2. Select some effective factors by linear regression or PCA.

3. Define two states of stock return, better than the market index and worse than the market index. Apply SVM and Logistic regression to carrying out the classification.

4. Check the accuracy of the method. If it's accurate, try to apply it to the futures market. If not, try to find why the linear factor model is still better.