# Can I Trade?

Hi, I am Francis and you can find me at fon.tran@gmail.com. This page tries to summarise a simple question I am working on. Can AI predict future stock pattern? If it can, is it better than the Multi-Factor model?

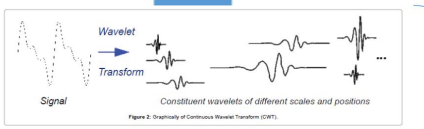
The data is from Quandl for China market. We used 3 types of data set to represent each stocks: Fundamental, Economics and Statistics driven data. And we use them to predict 20days excess market returns.

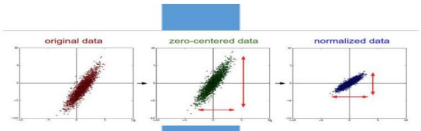
http://quandl

Fundamental data (P/E)

Economics Data (interest rate)

Statistics data (price/volume)





There are about 80+ factors covering 3 areas. We want to predict 20 days market excess returns because anything less will be too volatile and any extra alpha will be gone with transaction cost. We want excess return because that shows the true alpha of a stock and not because of the markets.

There are two levels data filtering:

1. we first use wavelet to filter out high frequency noise from low frequency. We use two times filtering with wavelet db38 and sigma type donoho.

2. we use normalization to ensure our data are all centred around zeros and standard deviation of 1.

ENCODER

Three layers of Denses network. One per number of steps (steps = 20, 40, 60 and 80). This is 1st part of the encoding.

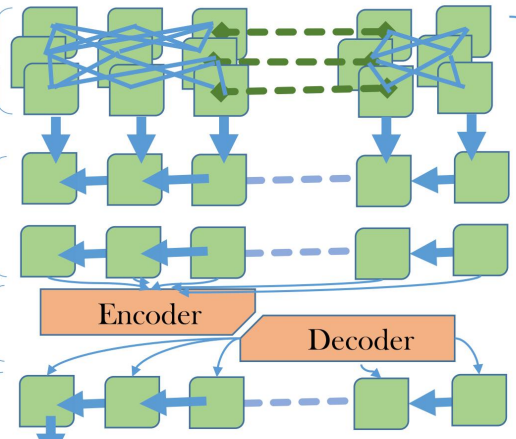
Pass the Dense layers into 2 layers of LSTM

Pass the encoding from the hidden state and memory state of the LSTM layer as the input of the decoder

DECODER

Layers of LSTM to decode and pass it to the final Dense layer.

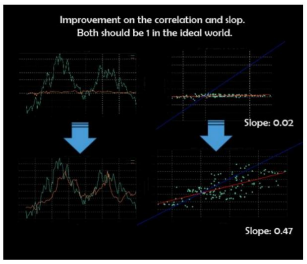
Last 2 layers of Dense with BatchNorm, Relu activation and Dropout to predict 20days excess market return




Three validations: the slop, correlation and hitrate between the predicted and true value

Is it real? how do I check?

What will I get?!




**THE VIDEO: https://www.youtube.com/watch?v=vXTRRmJlwcw**