Capstone Project Proposal

Martin Piják

Bratislava, Slovakia

Abstract

This is proposal for using Machine Learning methods in trading.

Keywords: Machine Learning, Trading, Udacity, Nanodegree

1. Data Sources

I will use free data from Quandl.

I will retrieve data through Quandl API and then save resulting dataframe as CSV file. This way it will be possible to run project without the need to call Quandl APIs.

Following CME traded commodities will be used.

- Gold
- Corn
- Coffee

I will use COT data joined with trading data (OHLC and volume) daily data.

I might look into other free data sources depending on the results I will get.

1.1. Data Analysis Tools

I plan to use following libraries/frameworks.

- Scikit
- Keras
- TensorFlow

1.2. Objective

Main goal is to create trading strategy.

I will look into commodities that's why I want to capture seasonality. First idea I want to explore is to use two years sliding window. I will train different classifiers on the different futures market and based on that make trading decision for the next day. I plan to use daily data, because of that my trading plan is to hold the position (either long/short) for 1-3 days or until stop loss was hit.

I will investigate different features that have impact on trading.

- seasonality (what is the cycle?)
- different classifiers (random forest, neaural networks...)
- stop loss
- COT