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Econometrics - Group Work Project 3

Introduction.

The following steps constitute the Pyalgotrade:

- Strategies
- Feeds
- Brokers
- Data Series
- Technical
- Optimizer

Strategies

These are the classes that you define that implement the trading logic. When to buy, when to sell, etc.

Feeds

These are data providing abstractions. For example, you'll use a CSV feed that loads bars from a CSV (Comma-separated values) formatted file to feed data to a strategy. Feeds are not limited to bars. For example, there is a Twitter feed that allows incorporating Twitter events into trading decisions.

Brokers

Brokers are responsible for executing orders.

Data Series

A data series is an abstraction used to manage time series data.

Technical

These are a set of filters that you use to make calculations on top of Data Series. For example SMA (Simple Moving Average), RSI (Relative Strength Index), etc. These filters are modelled as Data Series decorators.

Optimizer

These are a set of classes that allow you to distribute backtesting among different computers, or different processes running in the same computer, or a combination of both. They make horizontal scaling easy.

A simple Bollinger Band Strategy.

Bollinger Bands have quickly become one of the most commonly used tools in technical analysis. Bollinger Bands consist of three bands - an upper, middle and lower band - that are used to spotlight extreme short-term prices in a security. The upper band represents overbought territory, while the lower band can show you when a security is oversold. Most technicians will use Bollinger Bands in conjunction with other analysis tools to get a better picture of the current state of a market or security. (To learn more about how Bollinger Bands are constructed see, The Basics of Bollinger Bands)

The Strategy

The Bollinger Bands strategy is mostly used in conjunction with other indicators, but we wanted to take a look at a simple strategy that uses only the bands to make trading decisions. It has been found that buying the breaks of the lower Bollinger Band is a way to take advantage of oversold conditions. Usually, once a lower band has been broken due to heavy selling, the price of the stock will revert back above the lower band and head toward the middle band. This is the exact scenario this strategy attempts to profit from. The strategy calls for a close below the lower band, which is then used as an immediate signal to buy the stock the next day.