Timeframe Trading Algorithms

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LITERARY REVIEW

Books

Electronic and Algorithmic Trading Technology - The Complete Guide

By Kendall Kim
Started Reading - 30/09/2017
Finished Reading - 11/10/2017

- This book was found in Durham library using the search term ”algorithmic trading”.
- The first chapter is a fairly outdated history of algorithmic trading and goes through the terms that will be used in the book. It also goes through how algorithmic trading was used in the late 2000s, namely to break up large buy or sell orders so as to reduce the effect that this has on the valuation of the stock.
- The second chapter comes from the point of view of a manager that covers all aspects of a trade. Pre-trade, the trade itself, and post trade. The signing of contracts and other such requirements. There is also discussion of data speed. This chapter is more around the theory and execution of the environment around the algorithms, it also touches on the shift of usage of brokers from over the phone to more through online.
- Chapter three covers the adoption and growth of algorithmic trading. Hedge funds especially have pushed this forwards.
- Chapter four, the repeal of Rule 390 and the consolidation of stock exchanges is discussed. The consolidation has a basis in speeding up technology and business development. With the repeal of rule 390 being a key factor in the acceleration of this.
- Chapter five, very useful in real life, we only implemented paper portfolio logic. TWAP and AWAP are considered.
- Chapter six, goes through offloading shares using an algorithm, very little black box trading is mentioned besides newsflow algorithms which have developed significantly since this book was written.
- Chapter seven, details about the move from broker controlled markets to direct market access, nothing useful besides history.
- Chapter eight, details data management, the idea that a peak will be reached where data cannot be accessed faster and then accuracy will become the main focus.
- Chapter nine, execution costs, how to minimise them, how to measure them and algorithms to minimise them.
- Chapter ten, what companies are doing to reduce transaction cost. Not applicable
- Chapter eleven, where algorithms would be most effective ”currently” and a few types of systems that are used. May be useful later.

- Chapter twelve, a lot of talk about regulation.
- Chapter thirteen, should a company buy or build algorithms to access the market? Arguments for both sides. Not applicable.
- Chapter fourteen, structure of hedge funds and what a prime brokerage market would result in.
- The rest of the book is an outdated look at the current solutions that are available and the benefits and drawbacks of all of them. As well as a definition list, might be useful at some point.

Statistical Arbitrage - Algorithmic Trading Insights and Techniques

By Andrew Pole
Started Reading - 11/10/2017
Finished Reading - /10/2017

- Talks about the pair trading scheme of the 1980s - Noise models with reverse and multiple bets, page 10, applying three rules, firstly enter the spread bet when the spread is 4 and unwind the bet when it is 0. secondly do the reverse, make the short and long positions reverse. Thirdly extract more from spreads by adding multiple entry points, due to rules one and two working over longer periods. - Very useful for older techniques and for ideas but has very little bearing on the current techniques employed.

Papers

Robust technical trading strategies using GP for algorithmic portfolio selection

- very useful list of implementations tested against, might be useful to show how these work. - Buy and hold - SGP - VAFGP - are some of the ones mentioned - other things mentioned are - This method shows improved robustness and out-of-sample results compared to standard genetic programming (SGP) and a volatility adjusted fitness (VAFGP). Trading strategies (TS) are evolved using financial metrics like the volatility, CAPM alpha and beta, and the Sharpe ratio alongside other Technical Indicators (TI) to find the best investment strategy.