Frequent-Pattern Tree Algorithm Application to S&P and Equity Indexes

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Abstract : Software and time optimization are very important factors in financial markets, which are competitive fields, and emergence of new computer tools further stresses the challenge. In this context, any improvement of technical indicators which generate a buy or sell signal is a major issue. Thus, many tools have been created to make them more effective. This worry about efficiency has been leading in present paper to seek best (and most innovative) way giving largest improvement in these indicators. The approach consists in attaching a signature to frequent market configurations by application of frequent patterns extraction method which is here most appropriate to optimize investment strategies. The goal of proposed trading algorithm is to find most accurate signatures using back testing procedure applied to technical indicators for improving their performance. The problem is then to determine the signatures which, combined with an indicator, outperform this indicator alone. To do this, the FP-Tree algorithm has been preferred, as it appears to be the most efficient algorithm to perform this task.