Launch of I Know First's AI-Predictive System for the Japanese Stock Market – Beating the Nikkei 225


As of December 28th 2017, I Know First finished the implementation and the training period of its AI-based ranking and forecasting model for the main equities listed on the Tokyo Stock Exchange. On this date, the first Japanese stock forecast was published for the subscribed investors in the local Japanese market, as the timing of the data feed and the forecast generation was adjusted to the respective time zone.

Since then, the predictions generated returns greatly surpassing that of the Nikkei.

For each covered stock the forecasts are generated daily for 6 main time horizons, expressed in calendar days/months/years: 3 days, 7 days, 14 days, 1 month, 3 months and 1 year.

The daily updated forecast consists of two numbers: the signal which indicates the predicted direction and strength of the stock's movement in the respective time frame, and the predictability which indicates how predictable the algorithm considers the stock's movements to be.

I Know First's AI-based forecasting system covers 1225 of the most liquid stocks listed on the Tokyo Stock Exchange, including 219 of the Nikkei 225 index constituents.

Average Returns per Time Horizon — Long/Short, Most Predictable Stocks
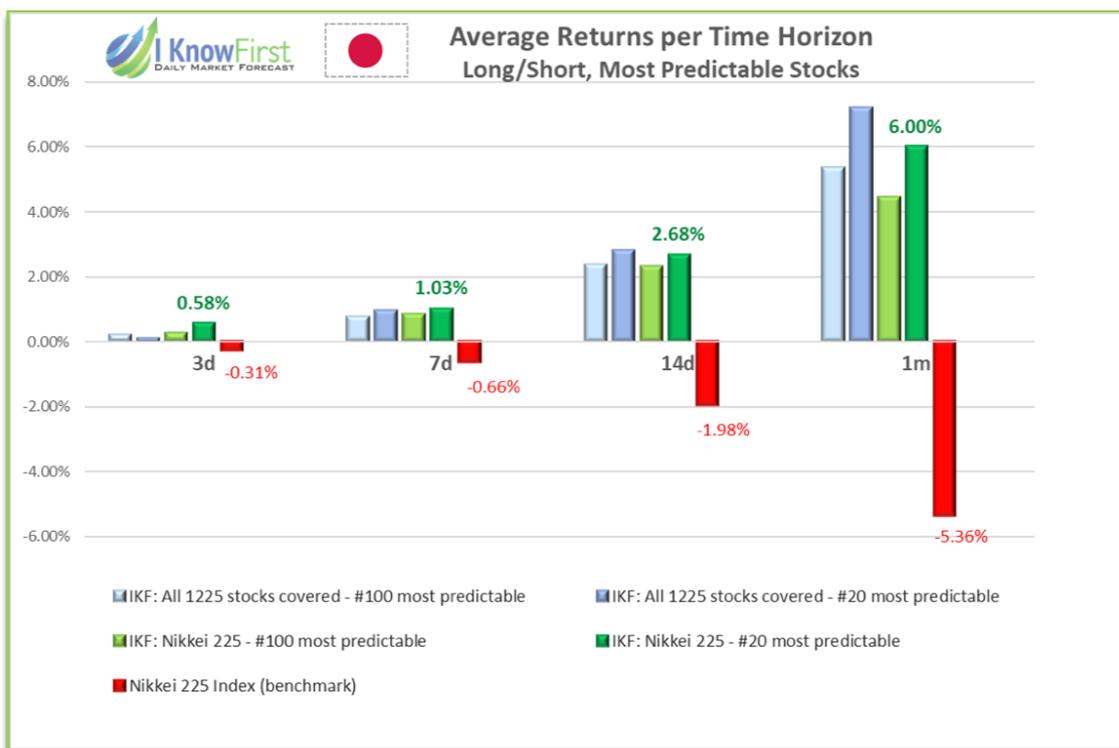
Added Value to the Investors:

The predictive AI system can be used by investors/traders to make smarter investment decisions by:

- identifying promising opportunities in the Japanese stock market
- implementing custom screens as overlay to support their research and investment process.

The AI tool is an active investment management product, suitable for institutional as well as private self-directed DIY investors, helping outperform the market and manage portfolios with more confidence.

Outperforming Results

In the period of 28/12/2017 – 16/03/2018 the forecasts for the Tokyo Stock Exchange (I Know First coverage: 1225 stocks) have been generated daily, including the 219 stocks covered from the Nikkei 225 index.

Nikkei 225 stocks

Table 1 presents the respective evaluation of the performance of the Nikkei 225 stocks forecasts. Average trade returns (Long/Short) are shown for the various time horizons versus the corresponding average returns of the index.

The table shows that the stocks selected using I Know First forecasts significantly outperform the benchmark for all time horizons. The long/short algorithm is able to identify the main trend of the market as well as the best overall opportunities. The higher the predictability level, the better on average the performance. Focusing on the best opportunities (Top 10 signals) as indicated by the absolute signal strength further improves the average returns.

FORECAST EVALUATION (Universe: Nikkei 225 Stocks) - Average Returns, Long/Short				
Unfiltered (pred>0)	**3d**	**7d**	**14d**	**1m**
all stocks	0.12%	0.56%	1.67%	2.91%
Top 10 signals	0.21%	0.66%	2.32%	4.30%
Filtered (#100 most predictable)	**3d**	**7d**	**14d**	**1m**
all stocks	0.29%	0.85%	2.33%	4.44%
Top 10 signals	0.37%	0.91%	2.26%	4.67%
Filtered (#50 most predictable)	**3d**	**7d**	**14d**	**1m**
all stocks	0.42%	0.99%	2.67%	5.66%
Top 10 signals	0.51%	0.82%	2.51%	6.32%
Nikkei 225 Index (benchmark)	**-0.31%**	**-0.66%**	**-1.98%**	**-5.36%**
Avg all 219 stocks returns (benchmark)	-0.39%	-0.78%	-2.31%	-5.83%
PREDICTABILITY EFFECT - average returns	**3d**	**7d**	**14d**	**1m**
Unfiltered (all, predictability >0)	0.12%	0.56%	1.67%	2.91%
Filtered (#150 most predictable)	0.22%	0.73%	1.99%	3.91%
Filtered (#100 most predictable)	0.29%	0.85%	2.33%	4.44%
Filtered (#50 most predictable)	0.42%	0.99%	2.67%	5.66%
Filtered (#20 most predictable)	0.58%	1.03%	2.68%	6.00%

Benchmark: The Nikkei 225 index is used as the benchmark (average returns according to same time horizons). Alternatively, the equally weighted returns of the 219 stocks covered can be taken as well.

All 1225 TSE-listed stocks covered by I Know First
The importance of the predictability indicator is also evident from the forecast evaluation for all the 1225 stocks covered – see Table 2 below.

Benchmark Using average returns of the 1225 stocks under consideration is a more appropriate benchmark in that case (see in red), Nikkei 225 index for reference purposes

is included as well.

Universe: 1225 largest most liquid stocks on TSE, Long/Short				
PREDICTABILITY EFFECT - average returns	3d	7d	14d	1m
Unfiltered (pred>0)	-0.02%	0.16%	0.68%	1.64%
Filtered (#600 most predictable)	0.06%	0.38%	1.31%	2.99%
Filtered (#300 most predictable)	0.13%	0.55%	1.80%	3.95%
Filtered (#200 most predictable)	0.15%	0.68%	1.91%	4.61%
Filtered (#100 most predictable)	0.22%	0.76%	2.37%	5.34%
Filtered (#50 most predictable)	0.18%	0.86%	2.65%	5.78%
Filtered (#20 most predictable)	0.13%	0.98%	2.82%	7.20%
Avg all 1225 stocks returns (benchmark)	-0.17%	-0.38%	-1.38%	-3.98%
Nikkei 225 (large cap benchmark)	-0.31%	-0.66%	-1.98%	-5.36%

Performance Evaluation – Remarks

Evaluation is based on all published Long/Short forecasts, for 3d, 7d, 14d and 1 month time horizons during the period 28/12/2017 – 16/03/2018 and presents the average returns in the direction of the signals for those time frames.

It highlights the importance of the predictability levels, as especially emphasized in the bottom of Table 1 and Table 2, and signal strength (Top 10, Table 1) with higher average returns for both when increasing.

It is evident that the predictability indicator is crucial to identifying consistently market outperforming opportunities and that virtually all the average returns obtained using the predictability filtered algorithmic forecasts beat the market. Moreover, among the stocks with high predictability levels, the strongest signals on average consistently correspond to higher returns as well.

Since the forecasting time frames are given in calendar days, the table below details the corresponding holding periods in trading days used

Forecast time horizon (in calendar days/months)	Position holding period (in trading days)
3 days	3
7 days	5
14 days	10
1 month	21
3 months	63

Conclusion

I Know First AI-based predictive system considers the markets holistically – it searches for patterns and relationships/interconnections in huge sets of historical daily updated, structured capital markets data and considers the financial world as a large complex system as a whole. From the patterns learned and matched to the current market conditions, the algorithm is deriving future projections for the securities. It condenses the learned patterns into two indicators representing each asset's forecast, allowing the investor to use the ranked predictions to identify great investment opportunities and to support his/her investment process and beat the broad market.

The predictability indicator, available for each security and time frame, helps to track how successful the algorithm is in learning the behavior of each individual asset and thus to focus on the most promising opportunities.

After primarily focusing on the U.S. stock market, the implementation of I Know First deep-learning model for the Japanese stock market and its outstanding results since the launch end of 2017 highlight the superiority of I Know First's approach and exemplifies the adaptability and high scalability level of the system to markets across the globe.