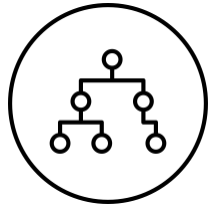

Investment Selection By Using Artificial Intelligence

July 2020

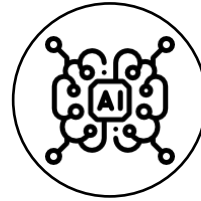
Yaron Golgher
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Dr. Lipa Roitman
CO-FOUNDER & Chief Scientist
lipa@iknowfirst.com

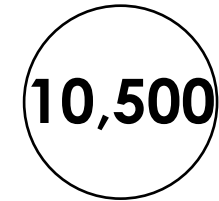
I KNOW FIRST PREDICTIVE ALGORITHM



A PREDICTIVE ALGORITHM
THAT PRODUCES DAILY
PREDICTIONS FOR THE
FINANCIAL MARKETS AND
**IDENTIFIES THE MOST
PROMISING INVESTMENT
OPPORTUNITIES**



UTILIZING **ARTIFICIAL
INTELLIGENCE, MACHINE
LEARNING/DEEP LEARNING**



DAILY FORECASTS FOR OVER
10,500 ASSETS: STOCKS, ETFS,
COMMODITES, FUTURES,
CURRENCIES, INTREST RATES
AND WORLD INDICES FOR
LONG, MID & SHORT TERMS

Daily AI-Based Forecast for over 50 global stock exchanges including the stock exchanges in US, Canada, Europe, Japan, Korea, Singapore, Australia, China, Hong Kong, Thailand Taiwan, India and more

I KNOW FIRST - TEAM



DR. LIPA ROITMAN

Co-founder and Chief Scientist

- Over 20 years of research and experience in artificial intelligence (AI) and machine learning (ML)
- PhD from the Weizmann Institute of Science
- IKF's algorithm has crystallized following years of his prior research into the nature of chaotic systems



YARON GOLGHER

Co-founder and CEO

- Over 17 years of experience in managing and leading IT projects for financial and financial institutions
- Formerly Partner and division manager for a leading Israeli consulting firm focusing on forecasting, budgeting and IT projects in the financial industry
- MBA from Ben Gurion University, B.Sc. in Industrial Engineering from Tel-Aviv University



UNIQUE R&D TEAM

PhD's , AI and Machine Learning Experts

- Prof. Yakov Yakubov, a Mathematician From Tel Aviv University
- Computer Science and IT professionals
- Applied Mathematicians & Statisticians
- Finance professionals
- IDF Veterans - Intelligence/8200 Unit/Mamram



FINANCE – ANALYST & TRADING TEAM

- Ori Rosenthal –Professional Trader (Previously Barak Capital)
- Economists & Financial Analysts
- Engineering BScs
- Capital market experts

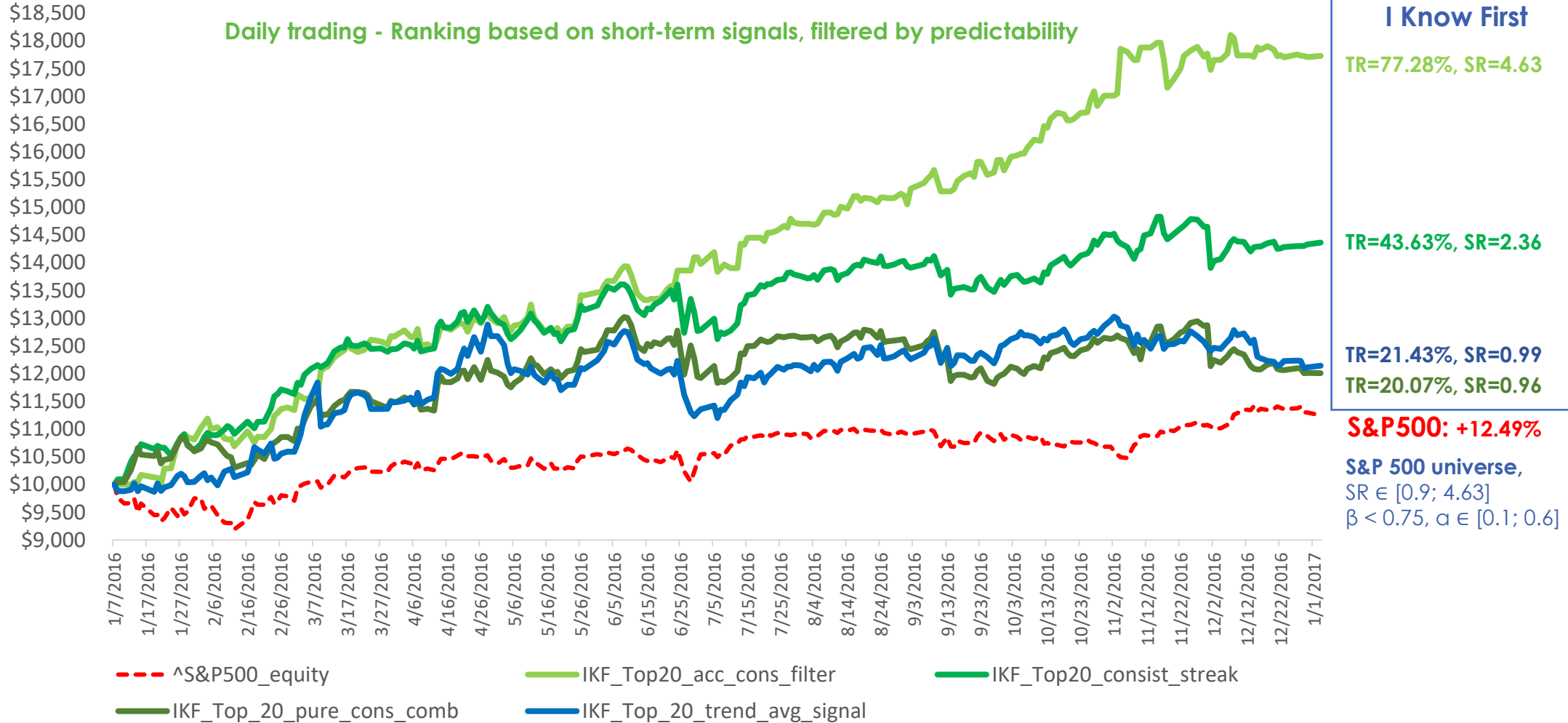
AWARDS



International Awards



WHAT WE DO

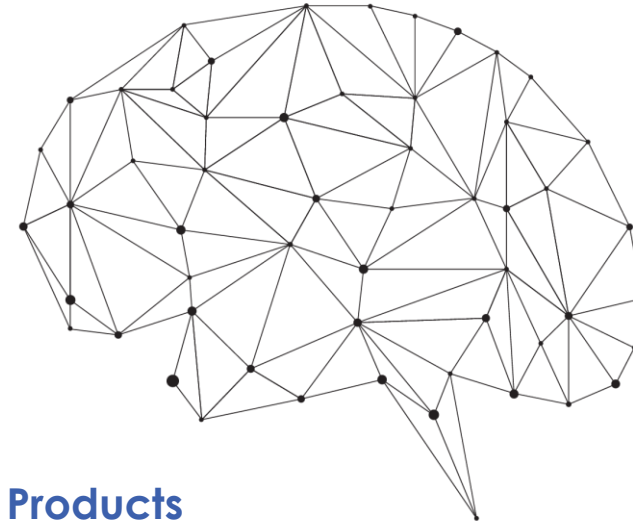


Providing AI-based predictive solutions for retail and institutional clients

Developing AI-Based financial products with leading investment houses

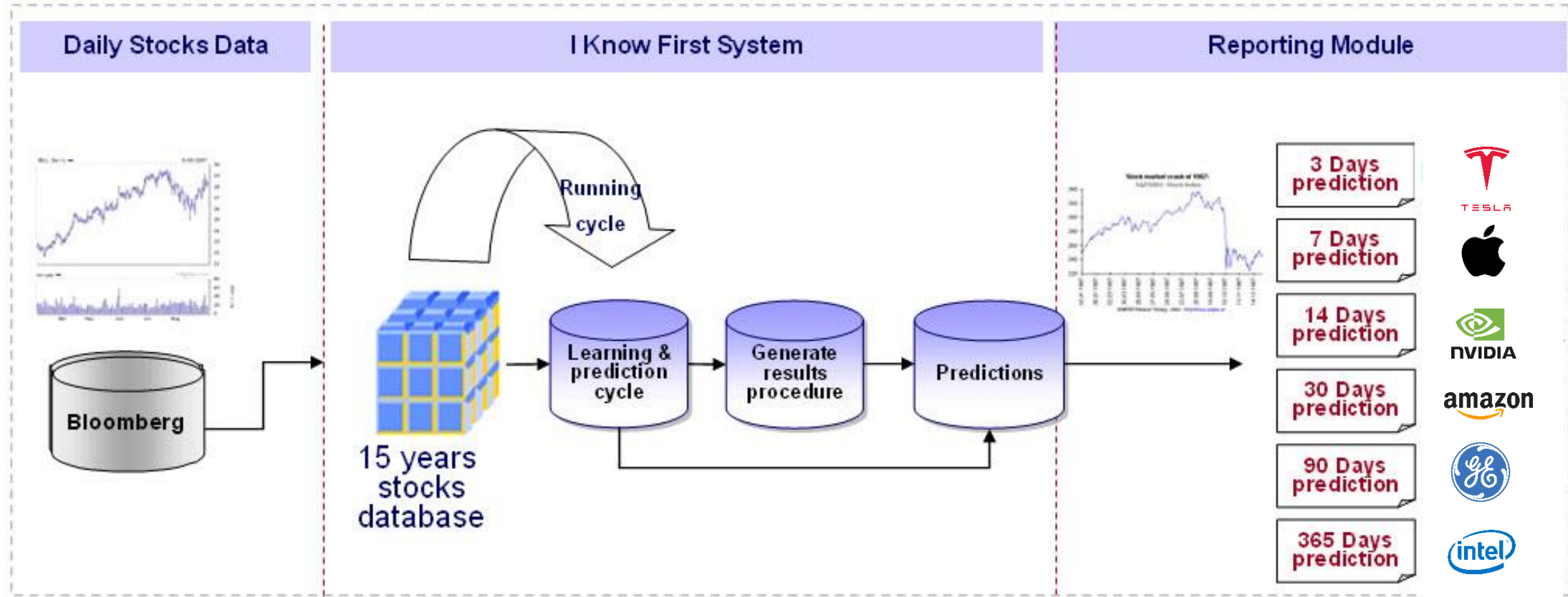
WHAT WE PROVIDE

- A** AI-Based Investment Opportunities and Trading Ideas
- B** Asset Allocation & Stock Market Intelligence
- C** Investment process -> Strategy, Research, Stock Picking
- D** Portfolio Construction
- E** Systematic Trading Strategies --> AI-Powered Investment Products



**AI-BASED
FORECASTING
ALGORITHM**

HOW WE DO IT



Daily data added to our 15 years historical DB

Run a learning & prediction cycle with new combined data

Daily predictions for > 10,500 assets : stocks, currencies, commodities, etc..

THE RESULTS ARE CONSTANTLY IMPROVING AS THE ALGORITHM LEARNS FROM ITS SUCCESSES AND FAILURES

I KNOW FIRST - AI TECHNOLOGY

A PROPRIETARY MACHINE LEARNING ALGORITHM:

- Cutting edge **Deep Learning** approach, incorporating most recent research
- Self-learning, flexible and scalable. Adaptive modelling of the capital markets through multi-layered **Artificial Neural Networks** (ANN)
- **Supervised and reinforcement learning**
- Extensive pre-processing to expose features not seen in the raw data
- Denoising (e.g. wavelet filtering) and regularization
- **Genetic Algorithms (GA)** used for optimization of data sets and system training
- **Unique predictability indicator used as the fitness function and quality measure of the forecast**

UNIQUE SELF-LEARNING FORECASTING ALGORITHM, COVERING A CONSTANTLY GROWING UNIVERSE OF OVER 10,500 ASSETS, WHICH ALLOWS US TO:

- **Separate and focus on the most predictable assets**
- **Identify investment opportunities, generate trading ideas and develop systematic trading strategies utilizing AI-based forecasts**

HOW WE DO IT? DAILY FORECAST

Forecast Date

Stock or Index name

Signal

Predictability

Targeted Forecast for the S&P 500

3 months

6 Time Horizons:
 - 3 days
 - 7 days
 - 14 days
 - 1 month
 - 3 months
 - 12 months

Stocks to Buy

Stocks to Sell

Each Cell represents a Stock or an Index

Updated Example Date					
ALU	ZION	C	BGC	*BKK	
1697.98	964.84	897.72	173.97	110.35	
0.25	0.25	0.29	0.34	0.32	
*ISEQ	AIG	*SSE180	ADM		
80.06	62.83	50.69	41.25		
0.44	0.05	0.47	0.41		
*RUS	*AMA1	*TZO	*MMM		
23.22	21.01	19.01	16.13		
-0.16	0.39	-0.05	0.23		
*SSMI	*JKSE	*CHKP	*MERY		
12.17	12.02	11.87	11.43		
-0.17	0.35	0.38	-0.03		
*GDAXI	*DJT	DD	AA	*N225	
9.89	9.82	9.74	9.23	9.19	
0.4	0.42	0.21	-0.06	0.08	
*DJI	*TA25	BAC	CTB	LEUMI	
7.00	6.75	6.72	6.70	6.19	
0.31	0.01	-0.05	0.21	-0.11	
GGB	*TA100	*AORD	F	*BVSP	
5.94	5.71	5.02	4.96	4.72	
0.41	0.35	0.48	0.26	0.3	
*OEX	ECH	INTC	*FTSE	DOX	
4.57	4.11	4.11	4.11	3.88	
0.31	0.38	0.25	0.49	0.47	
APA	GXC	EPHE	*HSI	ISRG	
3.65	3.65	3.35	3.26	3.04	
0.24	0.25	0.27	-0.22	0.47	
CRM	*S&P500	BHP	DE	*CMR	
3.01	2.85	2.85	2.44	2.40	
0.23	0.43	0.47	0.23	0.5	
*KSII	BASFY	HBC	*AEX	AMZN	
2.26	2.01	1.91	1.83	1.67	
-0.05	0.13	0.11	0.59	0.48	
*MXX	*RUT	*NBI	*IXIC	AMD	
0.36	0.15	-0.10	-0.15	-0.28	
-0.05	0.57	0.07	0.38	0.22	
AIZ	*BSESN	*NDX	*N250	*KLSE	
-0.46	-0.56	-0.57	-0.76	-0.91	
0.26	0.11	0.34	0.44	0.24	
ESLT	BA	GOOG	EXPE	GS	
-0.97	-1.07	-1.07	-1.60	-1.83	
0.04	0.57	0.36	0.24	0.37	
FL	GIS	*TWII	GT	AAPL	
-2.59	-2.59	-14.92	-42.72	-81.83	
0.22	0.43	0.41	0.07	0.16	

Signal

Updated 27_Nov_2013

1 month

XOMA	NOK	AMD	MTG	ADM	
152.28	151.36	36.23	32.30	13.84	
0.3	0.53	0.19	0.16	0.31	
APOL	AKS	ACI	RAD	ACLS	
13.84	12.00	9.00	8.77	8.08	
0.2	0.2	0.36	0.25	0.15	

Predictability Indicator

SIGNAL
 Predicted movement of the asset
 Shown at the top of each cell

P
PREDICTABILITY
 The historical correlation between past algorithmic predictions and actual market movement, for each asset.
 Shown at the bottom of each cell

KEY TO IDENTIFY AND FOCUS ON THE MOST PREDICTABLE MARKETS AND SECURITIES, ENHANCING THE OVERALL PERFORMANCE

TIERED SOLUTIONS OFFERING

TIER 1 – THE DAILY AI-BASED FORECAST



AI-BASED INVESTMENT OPPORTUNITIES AND TRADING IDEAS
Impartial AI-based trading ideas generation



STOCK MARKET INTELLIGENCE

- Daily updated predictions for over 10,000 securities
- Investment opportunities screening
- Self-learning system, adaptable to new market conditions and features
- Unique predictability indicator to identify and focus on the most predictable assets



RESEARCH INTEGRATION

- Scalability and high customization level w.r.t. exchanges, liquidity parameters, fundamental and other filtering criteria depending on the clients' requirements

1 month				
GRUB	AMH	MKTX	IDXX	AAN
101.13	100.69	72.42	70.51	69.82
0.41	0.43	0.28	0.38	0.4
AEIS	MKSI	AMAT	UAA	BVN
68.71	63.24	59.42	54.23	44.47
0.44	0.46	0.44	0.28	0.56
HAWK	TWOU	CLF	MTB	SPGI
24.70	15.33	12.71	9.66	9.63
0.41	0.29	0.55	0.49	0.34
HAE	AYI	MRVL	ARW	AON
9.60	9.41	9.39	8.75	8.74
0.35	0.32	0.43	0.29	0.19
TDY	GD	HLT	PNR	QLYS
8.67	8.25	8.21	8.20	8.09
0.51	0.49	0.52	0.4	0.43
NOK	ZTS	EPR	EMR	JBL
8.04	7.86	7.83	7.62	7.38
0.22	0.42	0.47	0.29	0.38
LSTR	BBT	EMN	BMRN	ESL
3.02	2.68	2.65	2.63	2.61
0.35	0.48	0.38	0.39	0.5
GPT	RLJ	WYNN	RIO	DCI
2.51	2.37	2.36	2.19	2.07
0.38	0.35	0.31	0.55	0.54
FEYE	CP	REGN	ROL	NTCT
1.93	1.87	1.86	1.79	1.60
0.41	0.47	0.35	0.36	0.6
PSA	APH	AMX	GE	FLEX
1.60	1.57	1.52	1.50	1.43
0.44	0.4	0.48	0.48	0.41
MU	TREX	H	VMW	ADSK
0.40	0.37	0.30	0.28	0.22
0.7	0.28	0.43	0.63	0.42
DOV	SPLK	BLUE	MTD	EPD
0.13	0.09	0.00	-0.07	-0.08
0.44	0.41	0.58	0.28	0.38
DDR	PHG	RPAI	BIDU	CCMP
-2.05	-2.05	-2.06	-2.12	-2.13
0.38	0.35	0.29	0.25	0.56
NBR	WERN	FAF	AL	HR
-12.86	-13.03	-13.04	-13.05	-13.29
0.46	0.3	0.23	0.45	0.33
CFX	SSNC	KKR	FDX	ANSS
-13.30	-13.48	-13.54	-13.57	-13.78
0.53	0.45	0.63	0.41	0.49
FOLD	MOH	DAN	NVR	BITA
-34.52	-35.29	-37.55	-38.80	-39.33
0.38	0.28	0.61	0.37	0.25
CLVS	DK	NFLX	CLNS	CORT
-41.56	-41.57	-42.01	-42.94	-43.24
0.68	0.63	0.46	0.49	0.34



Stock picking by using AI-US stocks

Algorithmic Stock Forecast

3 Months Updated on 09_Apr_2020				
IMMU	AR	NVDA	NFLX	MU
50.75	21.89	9.50	8.25	7.31
0.63	0.51	0.65	0.59	0.71
EXEL	LRCX	ANET	ETFC	ABMD
6.00	4.90	4.89	4.82	4.78
0.62	0.64	0.70	0.65	0.57
4.54	3.83	3.41	3.26	3.24
0.57	0.59	0.64	0.64	0.64
3.20	2.62	2.54	2.49	^S&P500 0.13
0.67	0.63	0.68	0.70	0.42
-0.30	-0.33	-0.40	-0.48	-0.51
0.59	0.66	0.62	0.57	0.54
-0.52	-0.53	-0.60	-0.64	-0.75
0.66	0.57	0.58	0.59	0.62
-0.80	-0.96	-1.02	-1.02	-1.20
0.66	0.64	0.60	0.60	0.59

Forecast Performance (long)

Symbol	Forecast April 9th	% Change July 9th	Accuracy
IMMU	↑	<u>129.52%</u>	✓
AR	↑	<u>109.16%</u>	✓
NVDA	↑	<u>57.47%</u>	✓
NFLX	↑	<u>36.82%</u>	✓
MU	↑	<u>3.50%</u>	✓
EXEL	↑	<u>29.79%</u>	✓
LRCX	↑	<u>25.87%</u>	✓
ANET	↑	<u>1.96%</u>	✓
ETFC	↑	<u>23.10%</u>	✓
ABMD	↑	<u>70.01%</u>	✓
<i>I Know First Average</i>		<u>48.72%</u>	
<i>S&P 500</i>	↑	<u>14.62%</u>	✓

Stock picking by using AI-US stocks

Algorithmic Stock Forecast

14 Days Updated on 22_May_2020

TRGP	BLUE	RE	EXP	UAL
4.36	3.10	2.66	2.64	2.37
0.33	0.37	0.33	0.37	0.41
MTG	ALGN	ESNT	LUV	TMHC
2.31	2.29	2.25	2.21	2.17
0.34	0.32	0.41	0.33	0.32
2.09	2.05	1.98	1.89	1.78
0.37	0.31	0.33	0.34	0.36
1.72	1.55	1.54	1.52	1.46
0.36	0.32	0.36	0.35	0.36
1.38	1.36	1.33	1.30	1.27
0.36	0.33	0.44	0.37	0.33
1.21	1.20	1.19	1.18	1.16
0.37	0.37	0.29	0.34	0.34
1.16	1.12	0.32	-0.16	-0.16
0.38	0.43	0.23	0.35	0.37

Forecast Performance (long)

Symbol	Forecast May 22th	% Change June 6th	Accuracy
TRGP	↑	35.24%	✓
BLUE	↑	7.22%	✓
RE	↑	9.78%	✓
EXP	↑	15.91%	✓
UAL	↑	64.11%	✓
MTG	↑	23.77%	✓
ALGN	↑	22.14%	✓
ESNT	↑	21.92%	✓
LUV	↑	28.99%	✓
TMHC	↑	21.69%	✓
<u>I Know First Average</u>		25.08%	
<u>S&P 500</u>	↑	8.32%	✓

S&P 500 forecast + Stock to Short

Algorithmic Stock Forecast

3 Days		Updated on 25_Feb_2020		
0.64	0.57	0.30	0.28	0.27
0.17	0.31	0.17	0.20	0.18
0.24	0.19	0.12	^S&P500 -0.22	-0.37
0.18	0.19	0.25	0.11	0.21
-0.38	-0.39	-0.40	-0.42	-0.43
0.20	0.20	0.20	0.19	0.19
-0.46	-0.46	-0.49	-0.49	-0.50
0.17	0.20	0.22	0.17	0.17
-0.50	-0.51	-0.54	-0.54	-0.59
0.21	0.22	0.21	0.18	0.19
C	LAZ	ING	MRVL	ON
-0.60	-0.61	-0.65	-0.67	-0.70
0.18	0.23	0.22	0.20	0.18
STM	LNC	CPA	MS	MT
-0.72	-0.73	-0.79	-0.92	-0.99
0.28	0.20	0.25	0.24	0.19

Forecast Performance (short)

Symbol	Forecast	% Change	Accuracy
	February 25th	February 28th	
C	↓	-12.50%	✓
LAZ	↓	-8.69%	✓
ING	↓	-7.41%	✓
MRVL	↓	-7.23%	✓
ON	↓	-3.57%	✓
STM	↓	-3.32%	✓
LNC	↓	-17.62%	✓
CPA	↓	-17.30%	✓
MS	↓	-9.36%	✓
MT	↓	-5.05%	✓
I Know First Average		9.21%	
S&P 500	↓	-8.42%	✓

Stock picking by using AI-Tech stocks

Algorithmic Stock Forecast

1 Month Updated on 12_Jun_2020				
NFLX	NVDA	ADBE	AMZN	IAC
1.74	1.49	1.34	1.33	1.22
0.29	0.39	0.37	0.20	0.36
EA	FB	EBAY	GLW	MA
1.15	0.94	0.89	0.83	0.78
0.26	0.24	0.26	0.37	0.33
0.77	0.70	0.70	0.68	0.61
0.30	0.53	0.34	0.33	0.28
0.61	0.60	0.58	0.55	0.52
0.34	0.21	0.49	0.33	0.36
0.49	0.49	0.48	0.47	0.47
0.29	0.34	0.41	0.53	0.41
0.44	0.44	0.42	0.42	0.41
0.23	0.24	0.27	0.43	0.47
0.39	0.38	0.38	0.35	-0.35
0.38	0.34	0.35	0.40	0.28

Forecast Performance (long)

Symbol	Forecast June 12th	% Change July 12th	Accuracy
NFLX	↑	28.94%	✓
NVDA	↑	19.13%	✓
ADBE	↑	20.26%	✓
AMZN	↑	25.10%	✓
IAC	↑	44.15%	✓
EA	↑	15.02%	✓
FB	↑	9.20%	✓
EBAY	↑	23.63%	✓
GLW	↑	1.99%	✓
MA	↑	1.52%	✓
<i>I Know First Average</i>		18.89%	
<i>S&P 500</i>		6.09%	

ETF's Forecast

Algorithmic ETF Forecast

3 Months Updated on 12_Apr_2020				
TQQQ	FBT	QQQ	PSCH	SSO
3.21	2.08	2.00	1.47	1.20
0.56	0.54	0.52	0.55	0.43
IVW	IBB	VGT	IUSG	GDXJ
0.94	0.80	0.75	0.68	0.64
0.45	0.42	0.49	0.46	0.37
0.63	0.63	0.57	0.48	0.48
0.47	0.47	0.56	0.38	0.34
0.47	0.42	0.41	-0.74	-0.78
0.59	0.45	0.26	0.41	0.48
-0.78	-0.83	-0.86	-0.95	-1.05
0.47	0.33	0.36	0.57	0.35
-1.05	-1.10	-1.21	-1.22	-1.26
0.26	0.34	0.30	0.24	0.15
-1.29	-1.34	-1.90	-3.33	-12.16
0.30	0.39	0.30	0.37	0.17

Forecast Performance (long)

Symbol	Forecast April 12th	% Change July 12th	Accuracy
TQQQ	↑	116.11%	✓
FBT	↑	24.70%	✓
QQQ	↑	31.42%	✓
PSCH	↑	10.29%	✓
SSO	↑	28.82%	✓
IVW	↑	22.78%	✓
IBB	↑	22.15%	✓
VGT	↑	28.17%	✓
IUSG	↑	22.55%	✓
GDXJ	↑	48.75%	✓
I Know First Average		35.58%	
S&P 500		14.17%	

Ticker	Recommended Long Position: ↑
Signal	Recommended Short Position: ↓
Predictability	*I Know First Average denotes the non-weighted average return of the listed symbols

Stock picking by using AI- Japan

Algorithmic Stock Forecast

3 Months Updated on 1_Apr_2020				
2484.T	6055.T	6630.T	2471.T	2930.T
1301.93	160.37	117.31	108.48	103.93
0.59	0.43	0.72	0.33	0.75
3064.T	4345.T	2127.T	3844.T	2491.T
100.61	98.93	97.23	95.66	95.36
0.28	0.72	0.59	0.53	0.41
9.46	9.45	9.43	9.42	9.42
0.50	0.63	0.80	0.47	0.41
9.36	9.28	9.27	9.17	-13.19
0.74	0.49	0.48	0.49	0.31
-13.19	-13.26	-13.28	-13.29	-13.44
0.20	0.71	0.51	0.56	0.58
-13.47	-13.60	-75.94	-76.52	-77.08
0.54	0.29	0.52	0.59	0.49
-97.11	-106.78	-114.07	-169.39	-798.60
0.28	0.39	0.42	0.61	0.02

Forecast Performance (long)

Symbol	Forecast April 1st	% Change July 1st	Accuracy
2484.T	↑	42.64%	✓
6055.T	↑	15.93%	✓
6630.T	↑	52.54%	✓
2471.T	↑	31.64%	✓
2930.T	↑	-5.08%	✗
3064.T	↑	51.15%	✓
4345.T	↑	62.41%	✓
2127.T	↑	61.93%	✓
3844.T	↑	22.14%	✓
2491.T	↑	62.25%	✓
<i>I Know First Average</i>		39.75%	
<i>NIKKEI 225</i>		16.94%	

Stock picking by using AI- Australia

Algorithmic Stock Forecast

1 Month Updated on 15_May_2020				
CIA.AX	SYR.AX	PNI.AX	SIQ.AX	CTD.AX
84.41	73.95	50.90	41.86	37.40
0.34	0.37	0.32	0.31	0.34
PPS.AX	AUB.AX	AMP.AX	SPL.AX	CPU.AX
34.54	24.48	20.08	17.86	17.47
0.31	0.34	0.46	0.36	0.38
15.56	14.73	5.72	4.68	4.33
0.33	0.38	0.40	0.30	0.30
3.08	1.75	1.74	-3.27	-3.73
0.31	0.35	0.40	0.37	0.25
-3.74	-5.06	-5.34	-5.46	-5.49
0.35	0.34	0.33	0.33	0.28
-6.15	-7.79	-7.92	-8.13	-8.16
0.38	0.33	0.29	0.34	0.32
-8.97	-10.41	-12.50	-13.48	-32.25
0.45	0.36	0.46	0.33	0.34

Forecast Performance (long)

Symbol	Forecast May 15th	% Change June 16th	Accuracy
CIA.AX	↑	44.58%	✓
SYR.AX	↑	10.91%	✓
PNI.AX	↑	11.26%	✓
SIQ.AX	↑	26.95%	✓
CTD.AX	↑	16.62%	✓
PPS.AX	↑	26.56%	✓
AUB.AX	↑	7.06%	✓
AMP.AX	↑	27.34%	✓
SPL.AX	↑	9.28%	✓
CPU.AX	↑	10.06%	✓
I Know First Average		19.06%	
S&P ASX		11.81%	

Stock picking by using AI- India

Algorithmic Stock Forecast

3 Months Updated on 07_Apr_2020				
KDAI.NS	JBFI.NS	MAAC.BO	ROLT.NS	ISLB.NS
81.36	75.16	39.87	37.92	24.77
0.61	0.57	0.50	0.67	0.52
VIPC.NS	VNYL.NS	GRPH.NS	GJAI.NS	BHWR.NS
21.38	20.54	16.35	13.21	12.35
0.64	0.53	0.74	0.76	0.51
7.91	3.96	3.16	2.02	0.09
0.70	0.50	0.70	0.52	0.55
-8.77	-8.82	-10.31	-10.40	-23.91
0.71	0.71	0.61	0.58	0.57
-26.72	-29.34	-30.08	-32.32	-32.45
0.52	0.73	0.58	0.49	0.55
-32.79	-37.92	-41.00	-41.91	-45.47
0.61	0.53	0.59	0.60	0.56
-53.27	-69.08	-71.57	-90.35	-156.24
0.71	0.48	0.57	0.50	0.56

Forecast Performance (long)

Symbol	Forecast	% Change	Accuracy
	April 7th	July 7th	
KDAI.NS	↑	220.69%	✓
JBFI.NS	↑	33.54%	✓
MAAC.BO	↑	42.86%	✓
ROLT.NS	↑	195.65%	✓
ISLB.NS	↑	58.20%	✓
VIPC.NS	↑	82.22%	✓
VNYL.NS	↑	124.76%	✓
GRPH.NS	↑	34.72%	✓
GJAI.NS	↑	47.95%	✓
BHWR.NS	↑	85.37%	✓
<i>I Know First Average</i>		92.60%	
<i>S&P BSE</i>		32.92%	

Stock picking by using AI- Hong Kong

Algorithmic Stock Forecast

14 Days Updated on 24_Jun_2020				
2382.HK	0700.HK	3333.HK	0425.HK	0175.HK
82.15	50.26	42.89	35.92	35.91
0.36	0.36	0.39	0.37	0.50
1918.HK	2007.HK	0285.HK	2018.HK	0148.HK
27.51	26.03	25.83	24.22	21.09
0.44	0.47	0.40	0.38	0.45
18.03	15.39	15.31	13.70	12.33
0.41	0.39	0.37	0.42	0.35
11.15	9.68	9.36	8.80	8.62
0.39	0.37	0.41	0.38	0.41
8.49	7.71	6.88	6.75	6.26
0.34	0.38	0.36	0.35	0.37
4.79	3.74	1.86	0.87	0.28
0.47	0.45	0.36	0.39	0.37

Forecast Performance (long)

Symbol	Forecast June 24th	% Change July 8th	Accuracy
2382.HK	↑	23.71%	✓
0700.HK	↑	9.17%	✓
3333.HK	↑	22.23%	✓
0425.HK	↑	12.86%	✓
0175.HK	↑	37.76%	✓
1918.HK	↑	13.59%	✓
2007.HK	↑	9.68%	✓
0285.HK	↑	17.70%	✓
2018.HK	↑	26.44%	✓
0148.HK	↑	5.56%	✓
<i>I Know First Average</i>		17.87%	
HANG SENG		4.91%	

Stock picking by using AI- Shanghai

Algorithmic Stock Forecast

3 Days Updated on 05_Jul_2020				
600827.SS	600338.SS	510230.SS	510270.SS	601601.SS
212.28	88.31	38.68	37.53	36.85
0.15	0.15	0.15	0.15	0.15
601318.SS	601333.SS	600741.SS	510160.SS	600516.SS
33.61	24.92	24.19	20.56	19.85
0.19	0.16	0.17	0.16	0.18
19.77	19.36	19.30	18.30	18.06
0.16	0.16	0.16	0.16	0.16
15.58	15.37	14.58	14.37	14.05
0.16	0.16	0.17	0.16	0.20
12.22	12.04	9.13	8.91	8.35
0.18	0.20	0.17	0.20	0.16
4.84	1.84	-0.74	-1.20	-1.45
0.16	0.18	0.16	0.16	0.16

Forecast Performance (long)

Symbol	Forecast July 5th	% Change July 8th	Accuracy
600827.SS	↑	33.09%	✓
600338.SS	↑	21.48%	✓
510230.SS	↑	10.77%	✓
510270.SS	↑	6.48%	✓
601601.SS	↑	10.00%	✓
601318.SS	↑	9.92%	✓
601333.SS	↑	6.25%	✓
600741.SS	↑	3.36%	✓
510160.SS	↑	10.94%	✓
600516.SS	↑	8.96%	✓
<i>I Know First Average</i>		12.12%	
<i>SHANGHAI SE</i>		7.95%	

Stock picking by using AI- Shenzen

Algorithmic Stock Forecast

7 Days Updated on 5_Jul_2020				
002640.SZ	002577.SZ	300085.SZ	000504.SZ	000830.SZ
512.44	231.60	134.03	126.86	108.80
0.12	0.09	0.04	0.14	0.36
002285.SZ	000568.SZ	000006.SZ	000020.SZ	300059.SZ
108.13	102.03	98.79	85.41	83.72
0.24	0.23	0.16	0.04	0.07
82.62	79.86	9.49	9.47	9.45
0.07	0.16	0.13	0.13	0.06
9.42	9.38	9.37	9.35	9.28
0.04	0.09	0.12	0.20	0.18
9.25	9.20	9.18	9.02	-6.70
0.09	0.11	0.17	0.16	0.14
-6.91	-7.58	-7.70	-7.83	-8.06
0.18	0.12	0.06	0.12	0.08
-8.19	-8.39	-9.91	-10.43	-10.73
0.18	0.16	0.17	0.16	0.12

Forecast Performance (long)

Symbol	Forecast July 5th	% Change July 12th	Accuracy
002640.SZ	↑	23.70%	✓
002577.SZ	↑	3.64%	✓
300085.SZ	↑	50.28%	✓
000504.SZ	↑	-3.39%	✗
000830.SZ	↑	0.12%	✓
002285.SZ	↑	-2.71%	✗
000568.SZ	↑	10.35%	✓
000006.SZ	↑	13.98%	✓
000020.SZ	↑	21.60%	✓
300059.SZ	↑	12.41%	✓
<i>I Know First Average</i>		13.00%	
<i>SHANGHAI SE</i>		7.31%	

S&P 500 Forecast (Sep 2018)

Algorithmic Stock Forecast

3 months Updated 21_Sep_2018				
9.74	9.71	9.65	9.61	9.55
0.45	0.51	0.54	0.38	0.73
9.40	9.39	9.37	9.34	9.32
0.66	0.54	0.62	0.72	0.65
-3.95	-3.97	-3.98	-3.98	-4.43
0.63	0.61	0.7	0.41	0.67
-4.57	-4.60	-4.83	-4.93	-5.02
0.52	0.44	0.41	0.65	0.66
-5.19	-5.24	-5.24	-5.36	-5.42
0.39	0.69	0.54	0.7	0.5
NFLX	LGND	ICUI	ABMD	HRTX
-23.33	-24.08	-24.17	-25.97	-25.99
0.51	0.36	0.42	0.47	0.58
RHT	HFC	CHDN	RNG	MED
-26.20	-27.76	-30.29	-35.93	-39.10
0.53	0.6	0.59	0.41	0.49

Forecast Performance (short)

Symbol	Forecast		Accuracy
	September 21st	December 21st	
NFLX	↓	-32.56%	✓
LGND	↓	-48.60%	✓
ICUI	↓	-18.91%	✓
ABMD	↓	-24.00%	✓
HRTX	↓	-32.96%	✓
RHT	↓	29.64%	✗
HFC	↓	-25.14%	✓
CHDN	↓	-16.11%	✓
RNG	↓	-21.63%	✓
MED	↓	-44.33%	✓
I Know First Average		23.46%	
S&P 500	↓	-17.54%	✓

Stock picking by using AI-Europe

Algorithmic Stock Forecast

1 Month Updated on 11_Oct_2019				
VLOF.PA	BOL.ST	SYDB.CO	ECM.L	RSW.L
3.32	2.77	2.16	2.12	1.98
0.54	0.49	0.59	0.53	0.49
STM.MI	DANSKE.CO	WEIR.L	AMS.S	CNAT.PA
1.97	1.93	1.54	1.53	1.45
0.61	0.64	0.59	0.50	0.51
1.44	1.41	1.37	1.36	1.36
0.52	0.54	0.61	0.58	0.54
1.30	1.21	1.21	1.20	1.19
0.50	0.51	0.55	0.49	0.52
1.08	1.05	1.04	1.01	0.90
0.57	0.48	0.48	0.48	0.56
0.88	0.85	0.79	0.78	0.75
0.59	0.51	0.48	0.50	0.52
0.64	0.64	0.62	0.62	-2.26
0.51	0.50	0.52	0.58	0.53

Forecast Performance (long)

Symbol	Forecast	% Change	
	October 11th	November 11th	Accuracy
VLOF.PA	↑	18.05%	✓
BOL.ST	↑	14.14%	✓
SYDB.CO	↑	15.39%	✓
ECM.L	↑	17.24%	✓
RSW.L	↑	19.89%	✓
STM.MI	↑	20.61%	✓
DANSKE.CO	↑	4.00%	✓
WEIR.L	↑	11.42%	✓
AMS.S	↑	8.91%	✓
CNAT.PA	↑	13.07%	✓
<i>I Know First Average</i>		14.27%	
EURONEXT 100		4.58%	

Stock picking by using AI- CANADA

Algorithmic Stock Forecast

1 Month Updated on 24_May_2020				
DOO.TO	IFP.TO	VET.TO	CFP.TO	NFI.TO
3.09	2.66	2.20	2.11	1.82
0.42	0.43	0.40	0.41	0.40
BTE.TO	KEL.TO	WFT.TO	AC.TO	MX.TO
1.63	1.48	1.46	1.44	1.41
0.41	0.40	0.48	0.37	0.44
0.94	0.75	0.72	0.70	0.64
0.39	0.46	0.42	0.50	0.43
0.39	0.37	0.37	0.29	0.07
0.44	0.41	0.39	0.39	0.39
0.07	-0.01	-0.01	-0.02	-0.05
0.44	0.43	0.36	0.40	0.39
-0.11	-0.17	-0.22	-0.24	-0.43
0.47	0.39	0.40	0.36	0.30

Forecast Performance (long)

Symbol	Forecast May 24th	% Change June 25th	Accuracy
DOO.TO	↑	18.63%	✓
IFP.TO	↑	9.50%	✓
VET.TO	↑	-13.01%	✗
CFP.TO	↑	9.29%	✓
NFI.TO	↑	10.67%	✓
BTE.TO	↑	52.38%	✓
KEL.TO	↑	2.10%	✓
WFT.TO	↑	17.72%	✓
AC.TO	↑	2.33%	✓
MX.TO	↑	11.22%	✓
<i>I Know First Average</i>		12.08%	
<i>TSX</i>		3.57%	

Stock picking by using AI- Bovespa

Algorithmic Stock Forecast

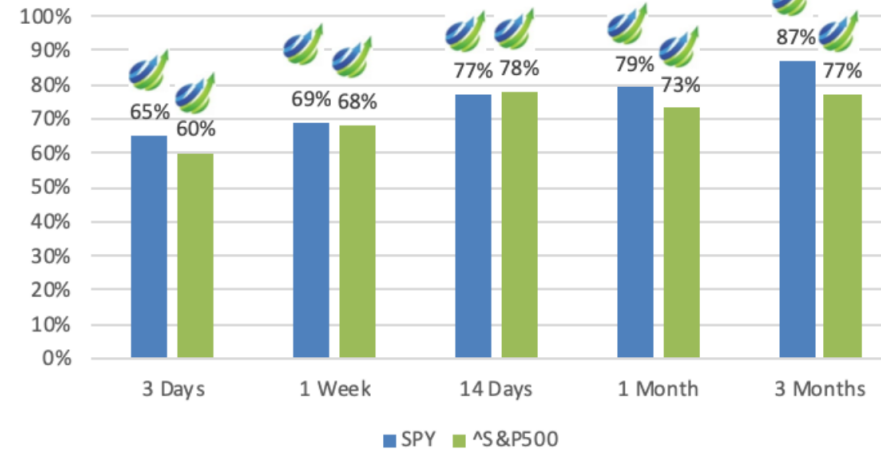
1 Month Updated on 29_May_2020				
VVAR3.SA	MGLU3.SA	MEAL3.SA	COGN3.SA	USIM5.SA
6.20	4.91	4.39	3.72	3.60
0.37	0.49	0.42	0.38	0.40
CVCB3.SA	LCAM3.SA	UNIP3.SA	USIM3.SA	UNIP6.SA
2.63	2.44	2.18	2.13	2.08
0.43	0.47	0.54	0.44	0.47
1.27	0.93	0.89	0.80	0.75
0.46	0.45	0.45	0.42	0.46
0.74	0.69	0.55	0.49	0.46
0.49	0.45	0.38	0.39	0.39
0.40	0.38	0.38	0.36	0.33
0.42	0.41	0.47	0.48	0.39
0.31	0.09	0.01	-0.28	-0.56
0.42	0.39	0.36	0.46	0.39

Forecast Performance (long)

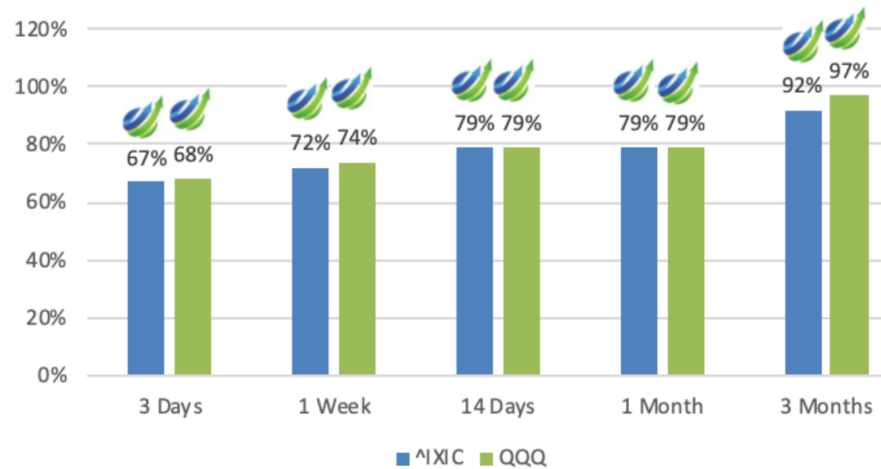
Symbol	Forecast May 29th	% Change June 30th	Accuracy
VVAR3.SA	↑	21.70%	✓
MGLU3.SA	↑	9.81%	✓
MEAL3.SA	↑	4.71%	✓
COGN3.SA	↑	26.39%	✓
USIM5.SA	↑	21.17%	✓
CVCB3.SA	↑	23.07%	✓
LCAM3.SA	↑	16.60%	✓
UNIP3.SA	↑	6.96%	✓
USIM3.SA	↑	28.01%	✓
UNIP6.SA	↑	2.66%	✓
<i>I Know First</i> Average		16.11%	
BOVESPA		9.32%	

HIT Ratio – S&P 500 & Nasdaq forecasts

Hit Ratio of S&P 500 ETF and Index



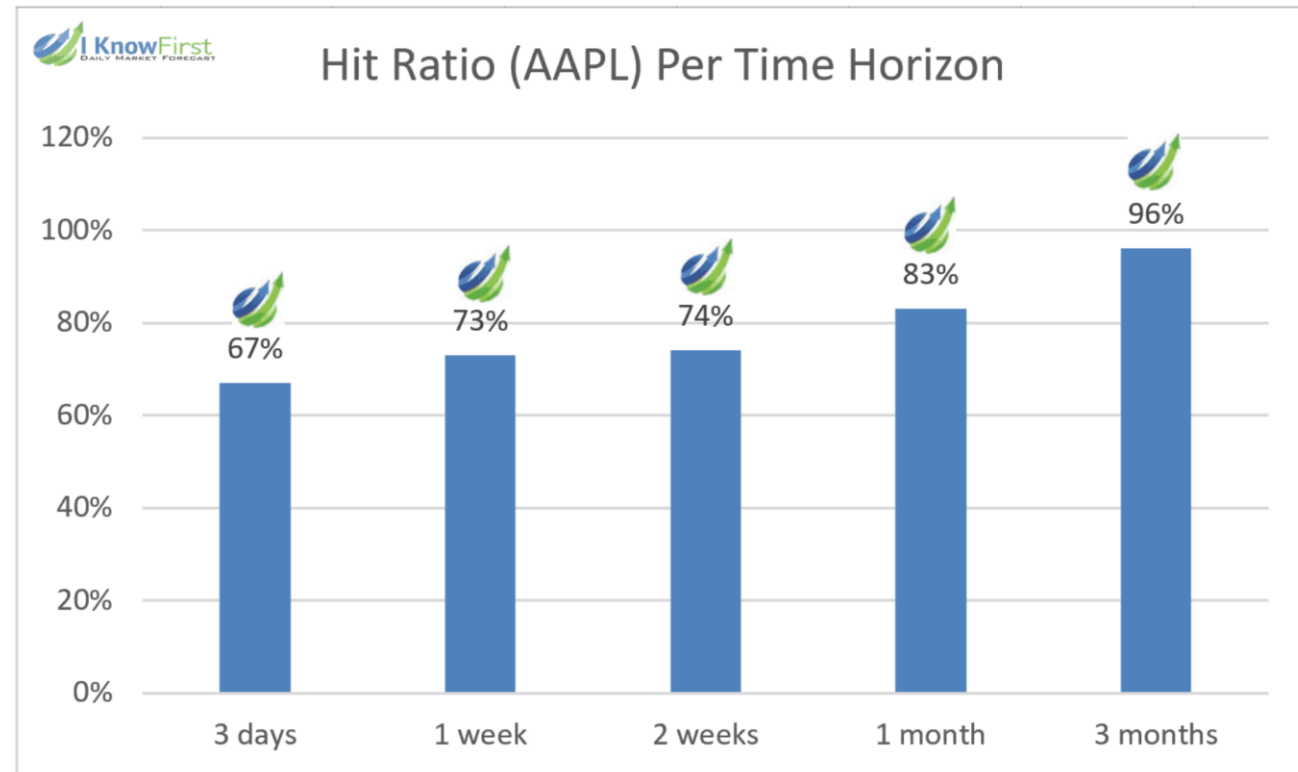
Hit Ratio of NASDAQ Index and ETF



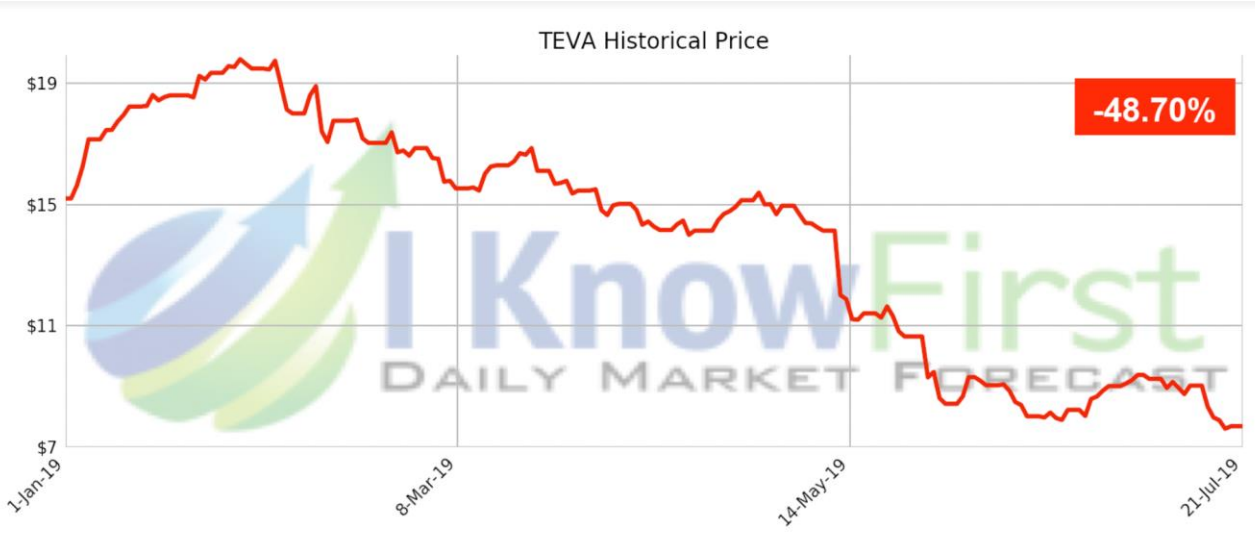
AAPL 2019 Hit ratio (over 720 forecast)



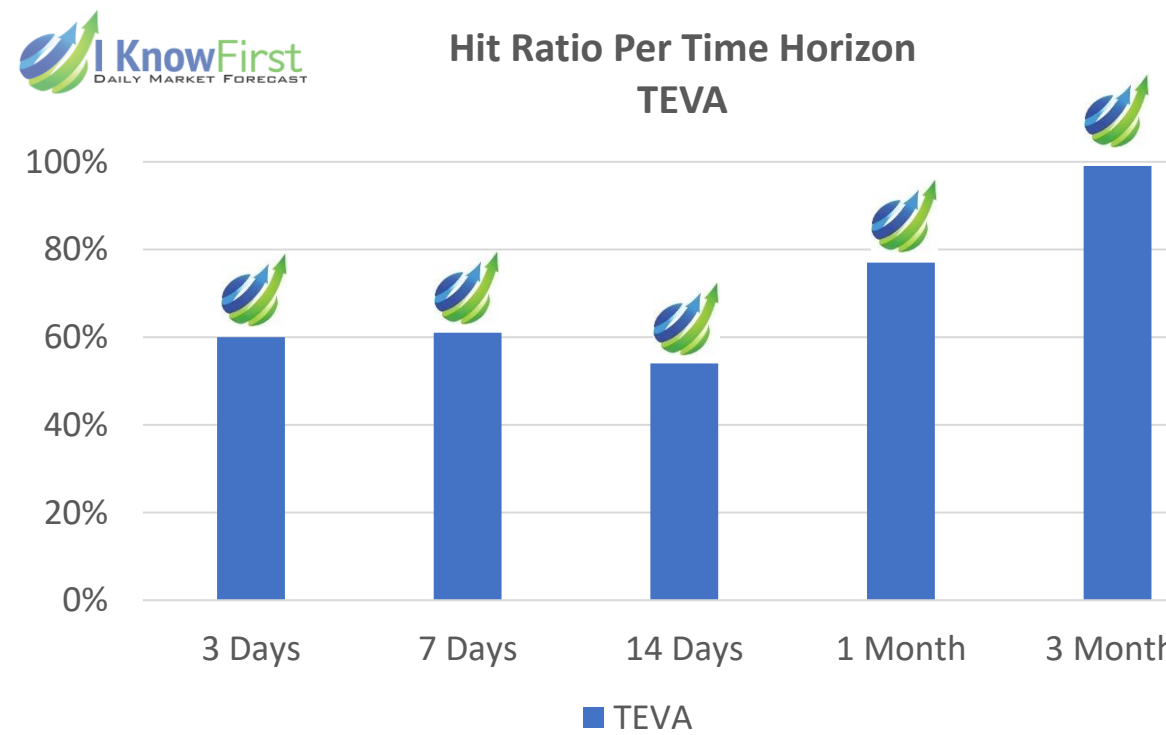
I Know First DAILY MARKET FORECAST	Hit Ratio Per Time Horizon				
	3 days	1 week	2 weeks	1 month	3 months
Long and Short Strategy					
Apple Inc stock	67%	73%	76%	71%	96%



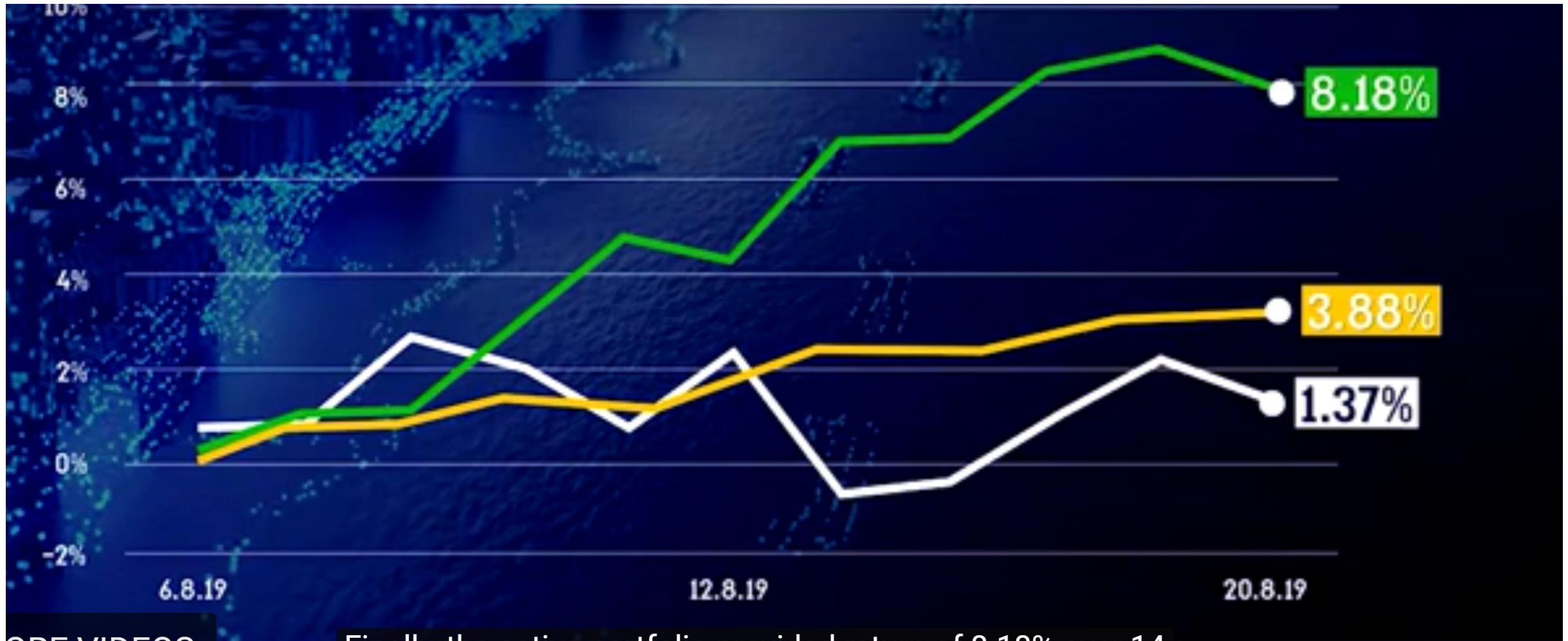
Teva 2019 Hit ratio (over 720 forecasts)



Long and Short Strategy	Hit Ratio Per Time Horizon				
	3 Days	7 Days	14 Days	1 Month	3 Months
TEVA	60%	61%	54%	77%	99%



News 13 Channel Visits I Know First And Builds Winning Portfolio



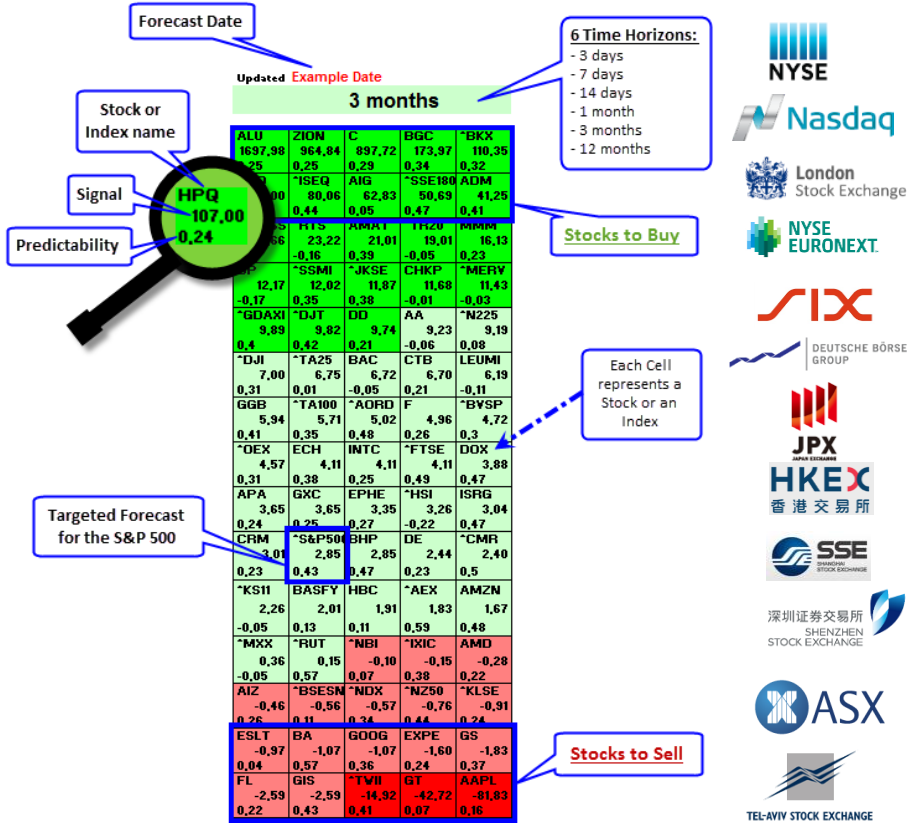
MORE VIDEOS

Finally, the active portfolio provided return of 8.18% over 14 days

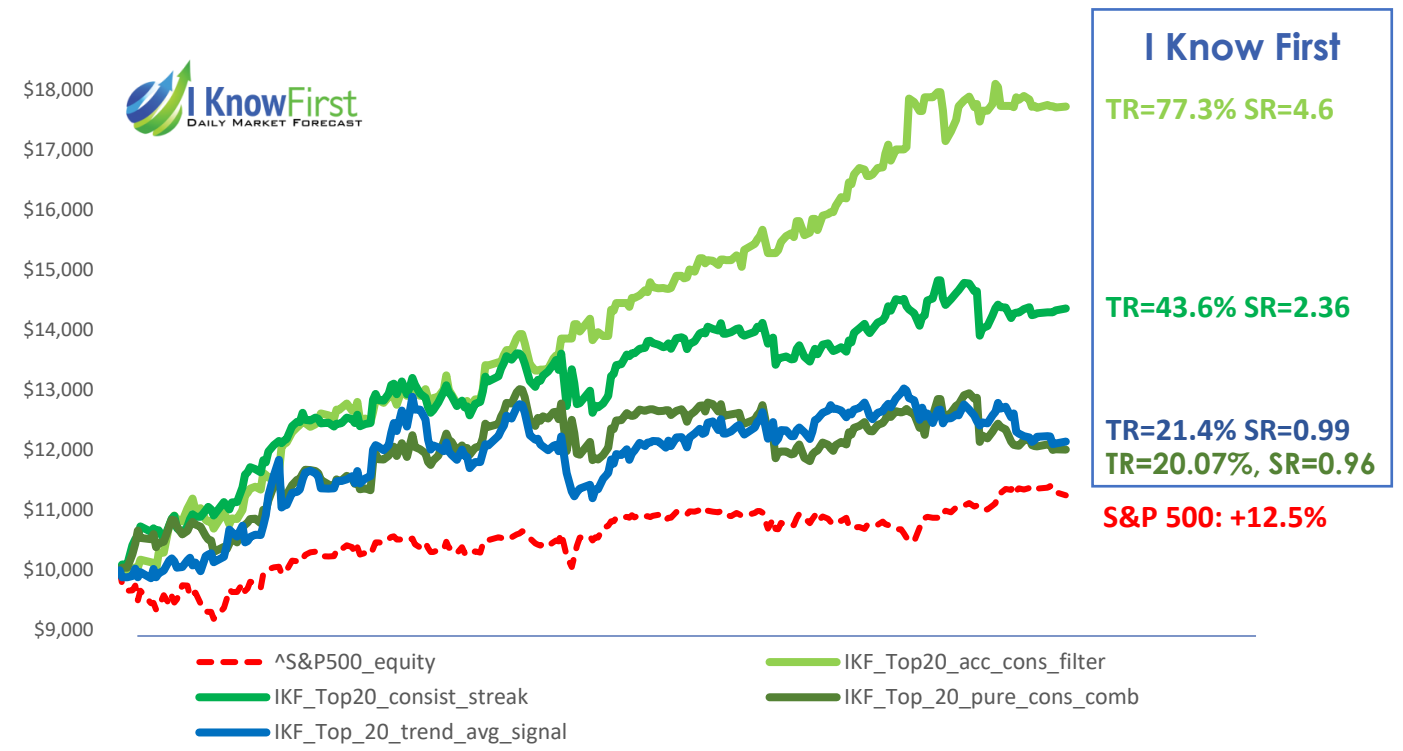
מה עושה בנקים שלנו? מהדורת השבת

TIERED SOLUTIONS OFFERING

TIER 1 – THE DAILY AI-BASED FORECAST



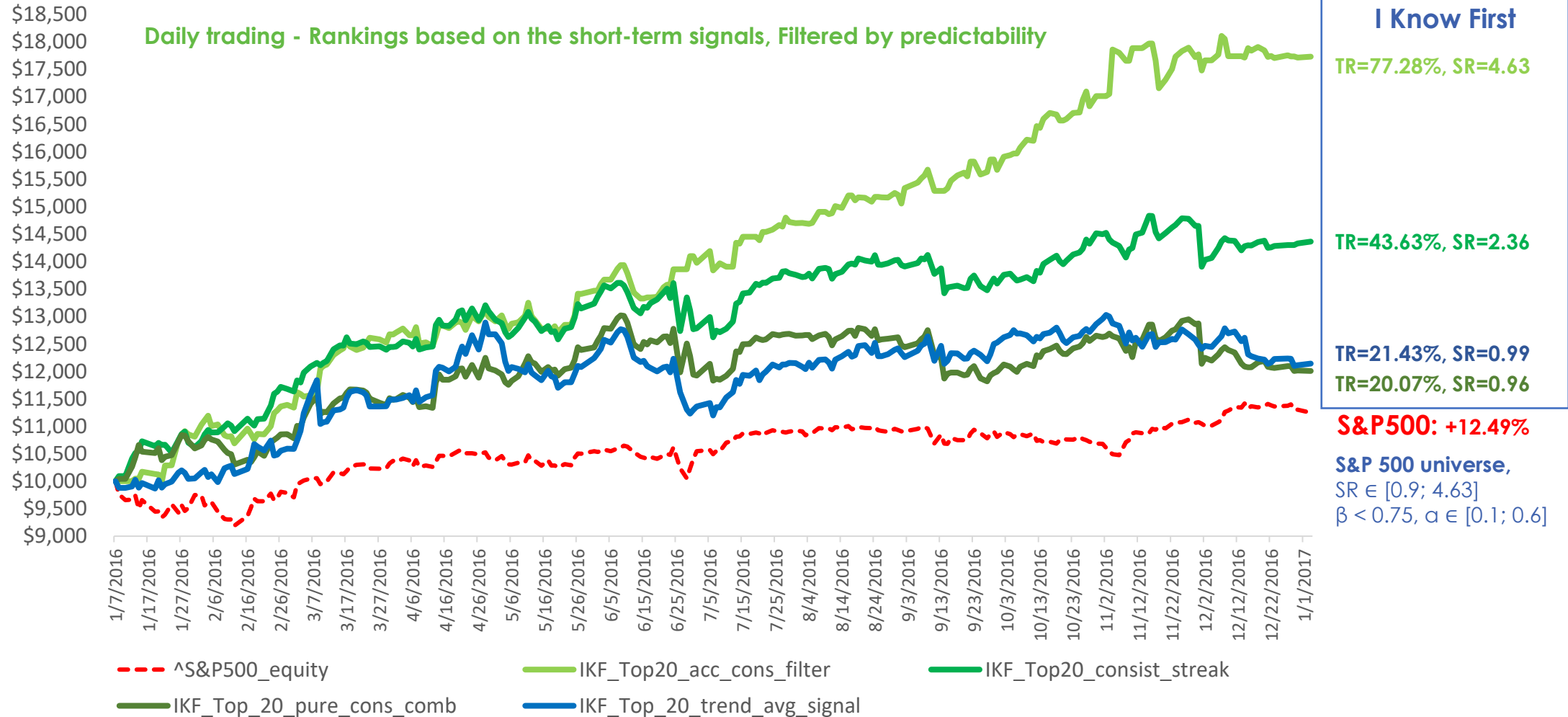
TIER 2 - WEALTH MANAGEMENT SOLUTIONS – SYSTEMATIC INVESTING



- Investment opportunities
- DSS for smarter investment decisions
- Customization (sector, fundamental, portfolio, others)

- Portfolio construction
- Systematic investing/ AI-Powered investment products

SYSTEMATIC AI-POWERED TRADING STRATEGIES

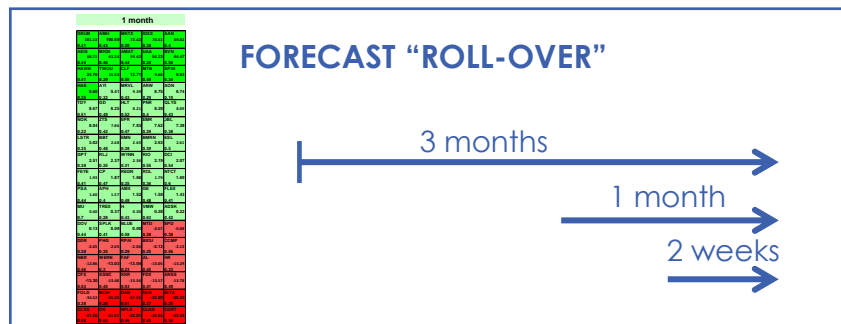


Portfolio construction
 Systematic investing / AI-Powered investment products

SYSTEMATIC AI-POWERED TRADING STRATEGIES

A FORECAST FOLLOWING APPROACH (LONG/SHORT):

- Apply I Know First's mid-term predictions
- Focus on the 50 most predictable assets from the S&P 500, ordered by predictability level and signal strength (3 month forecast)
- Construct an initial portfolio of 10 stocks
- Hold each position as long as the daily updated forecast doesn't change its sign
- Roll over to the next shortest forecast after the respective time elapses
- Open a new position every time an old one is closed



Total Returns
59.9%

Benchmark Returns
8.5%

Alpha
0.44

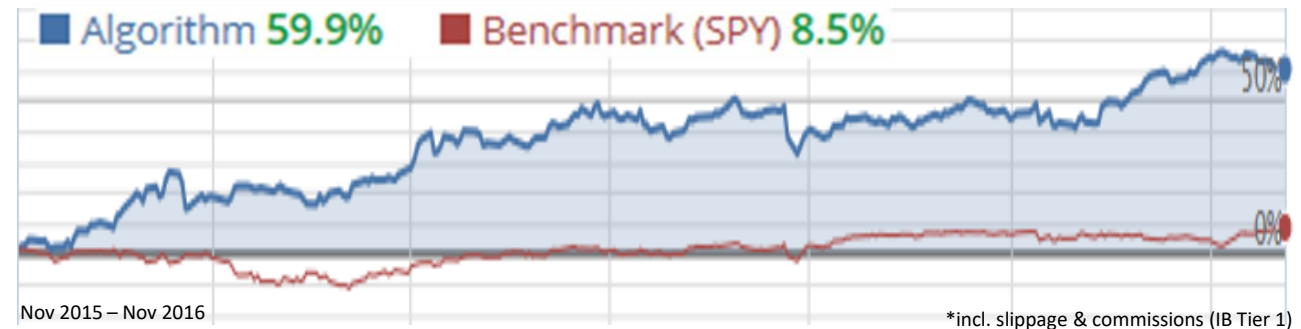
Beta
0.28

Sharpe
2.05

Sortino
2.92

Volatility
0.23

Max Drawdown
-11.9%



Long term strategy

SYSTEMATIC AI-POWERED TRADING STRATEGIES

DAILY MEAN-REVERTING TRADES SELECTION (LONG/SHORT):

- Apply I Know First's short-term model
- Filter for assets with high Predictability
- Filter for assets which recently moved against the forecasted direction and in which the signal strength increased
- Accumulate the subsequent signal-price discrepancy to get the final score
- Pick the assets with the highest score to bet on them bouncing back



SECTOR-ETF INVESTING

- Sector / industry bottom-up aggregated forecasts & trends and more

Weekly rebalancing strategy

Allocation Decisions & ETF Portfolios Using Artificial Intelligence

LEVEL 1

Individual AI-based Stock Forecasts (constituents)



+

Sector-ETF Forecasts

Aggregation:

Combining the information from individual, stock-level forecasts into sector/region-level conclusions.

Bottom-up aggregation →

LEVEL 2



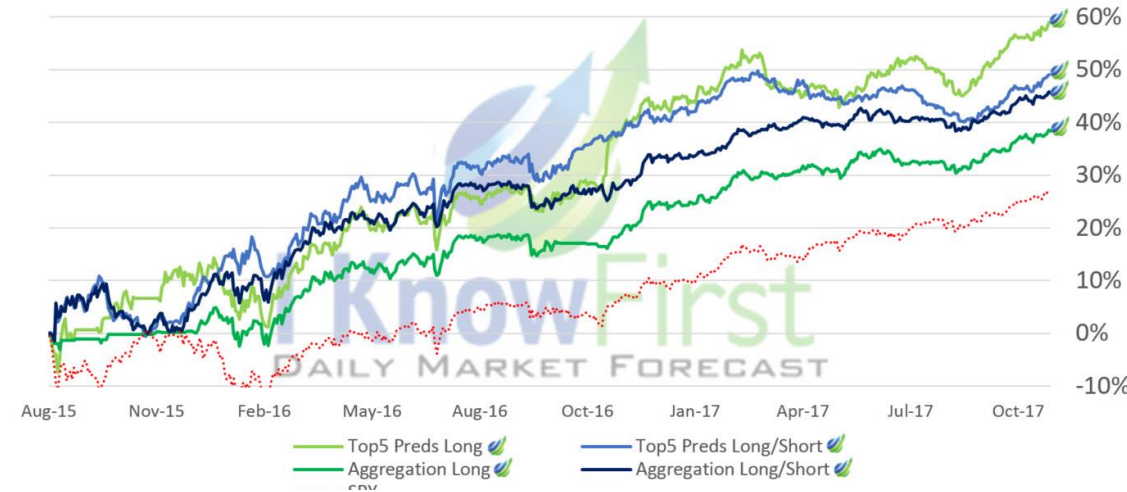
Exposure / Allocation (sectors, regional)

&

Investment Decisions

E.g. Sector Rotation Strategies via SPDRs

SPDR Sector ETF Portfolios



#	Strategy	Total Statistics				Trade Statistics		
		Total Return	Alpha	Beta	Sharpe Ratio	Max Drawdown	Mean Return per Trade	Mean Holding Period (days)
1	Top5 Preds - Long Short	49.08%	0.17	0.16	1.61	10.35%	0.70%	12
2	Top5 Preds - Long	59.14%	0.11	0.9	1.54	11.63%	0.68%	15
	SPY (Benchmark)	28.12%	0	1	0.90	12.66%		

“Bottom up” sector forecasting & rotation strategies

CASE STUDIES

I KNOW FIRST ALGORITHM



LARGE EUROPEAN BANK

- AI Based Forecasts for the Euronext
- Advanced Trading ideas generation tool for the private banking division based on the daily market opportunities
- Innovative tool for premium clients. Helping to increase their AUM as well as improve their trading activity



LARGE EUROPEAN BANK 2

- Investment Research and AI / Data Analytics teams
- MSCI ACWI constituents forecasts. Over 2200 global stocks covered from developed and emerging markets
- Sector / region level - bottom-up aggregation of the forecasts
- Decisions on regional and sectorial exposure and allocation



2 LEADING ISRAELI BANKS

- Integration into Bank's Research & Advisory
- ETFs and sector AI based Forecasts
- Proprietary trading



ISRAELI INVESTMENT HOUSE

- Mutual Funds / Hedge Funds - Active management based on I Know First's systematic trading strategies
- AI-powered wealth management products and investment vehicles. e.g. smart-beta and actively managed ETFs



U.S FAMILY OFFICES

- Customized algorithmic forecast for FO's investment universe
- Management of income generating and MLP portfolios

Reaching 10,000 institutional and retail clients by the end of 2019 Implementation and customization for all the stock markets in the world different local market (US, Europe, East Asia):



What makes your Predictive Algorithm unique?



- System built on decades of research into the nature of **chaotic systems, self-similarity, fractals**, and **machine learning algorithms**.
- Daily AI-Based Forecast for over 50 global stock exchanges and multiple asset classes
 - 10,500+ assets and growing.
 - Stocks, ETFs, commodities, futures, currencies, interest rates and world indices.
 - 18 time frames: short, mid and long term.
- Quantitative, independent and objective AI-based approach - separating it from traditional models and tools.
- Predictability indicator - allows to identify and focus on the most predictable assets.
- Self-learning, adaptable artificial intelligence - evolves and predicts the ever-changing financial markets.
- Holistic approach – our engine models the market as one whole complex system using data from all markets to make its predictions.
- Not a black box! The main contributors for each forecast can be shared
- Scalable, adjustable system and features a Decision Support System (DSS) to optimize the information - providing customized forecasts to clients.

What makes our Predictive Algorithm unique?

- Applies **wide and deep supervised learning**, incorporates **multi-layered neural networks** and genetic algorithms, and models **markets as non-stationary chaotic systems with fractal properties**.
- Uses **multi-representation**, i.e., multiple points of view and multiple data variants for each forecast, **data munging to expose important features**. Through an explicit regularization process, the model introduces more information to solve ill-posed problems and prevent overfitting. A fitness factor is added to the model to optimize its learning process, and the model makes predictions based on new data that the algorithm was not exposed to in the machine learning process.
- **Principal Component Analysis** is used to identify important (information carrying) inputs and separate them from unimportant ones. It makes the data easy to explore, visualize and learn. It results in near orthogonal inputs where each input is carrying information not present in other inputs and sparse matrices (most of the elements are zero).
- A Genetic adaptable algorithm is constantly refining the predictor pool - an assembly of predictors used to create a forecast. The **genetic algorithm** repeatedly modifies a population of individual predictors, selects the best ones and rejects the worst ones. When the fitness criteria are changing, it adapts to new conditions. This method for solving optimization problems is based on natural selection, **inspired by biological evolution**.

ARTIFICIAL INTELLIGENCE IS TRANSFORMING INVESTING

THANK YOU!

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