



FS Club

News **E**vents **P**artnerships

Debunking the 'Conventional Wisdom' In Financial Markets: AI-Powered Financial Forecasting In Action

Webinar

Monday 27 July 2020





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News Events Partnerships

A Word From Our Chairman



**Professor Michael
Mainelli**

Executive Chairman

Z/Yen Group



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Agenda



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- 11:00 – 11:05 Chairman's Introduction
- 11:05 – 11:30 Keynote Address
- 11:30 – 11:45 Questions & Answers



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News Events Partnerships

Debunking the
'Conventional Wisdom'
In Financial Markets: AI-
Powered Financial
Forecasting In Action



Jeremy Sosabowski

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The Webinar Debunking Panel



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CEO, AlgoDynamix



IAN HILLIER-BROOK

Director of Sales, AlgoDynamix

For today: Context and examples, AI details, use cases

Disclaimer

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→ These insights are NOT investment advice and should only be used to augment existing decisions

Context 1



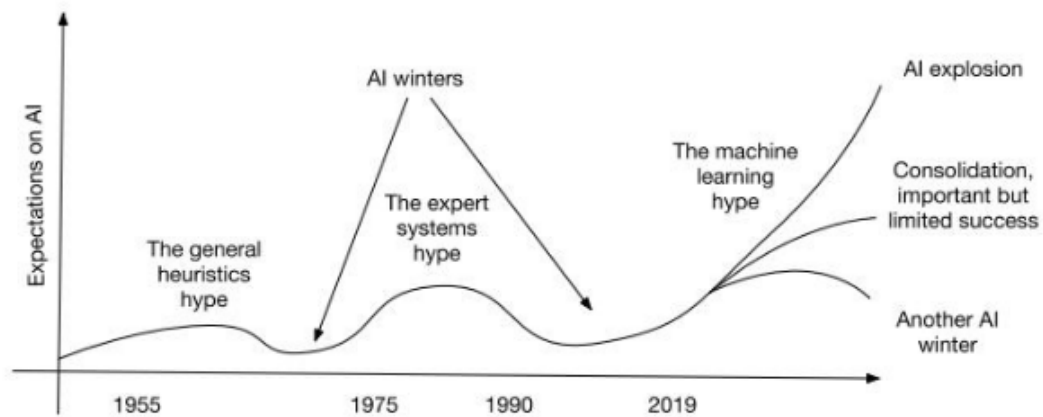
CHRIS SKINNER'S BLOG



Home / Fintech / AI will augment, not destroy humanity

AI WILL AUGMENT, NOT DESTROY HUMANITY

I've spent years talking about Artificial Intelligence (AI).



Hypes and winters of AI

Source: *Europa*

Bigger picture context:

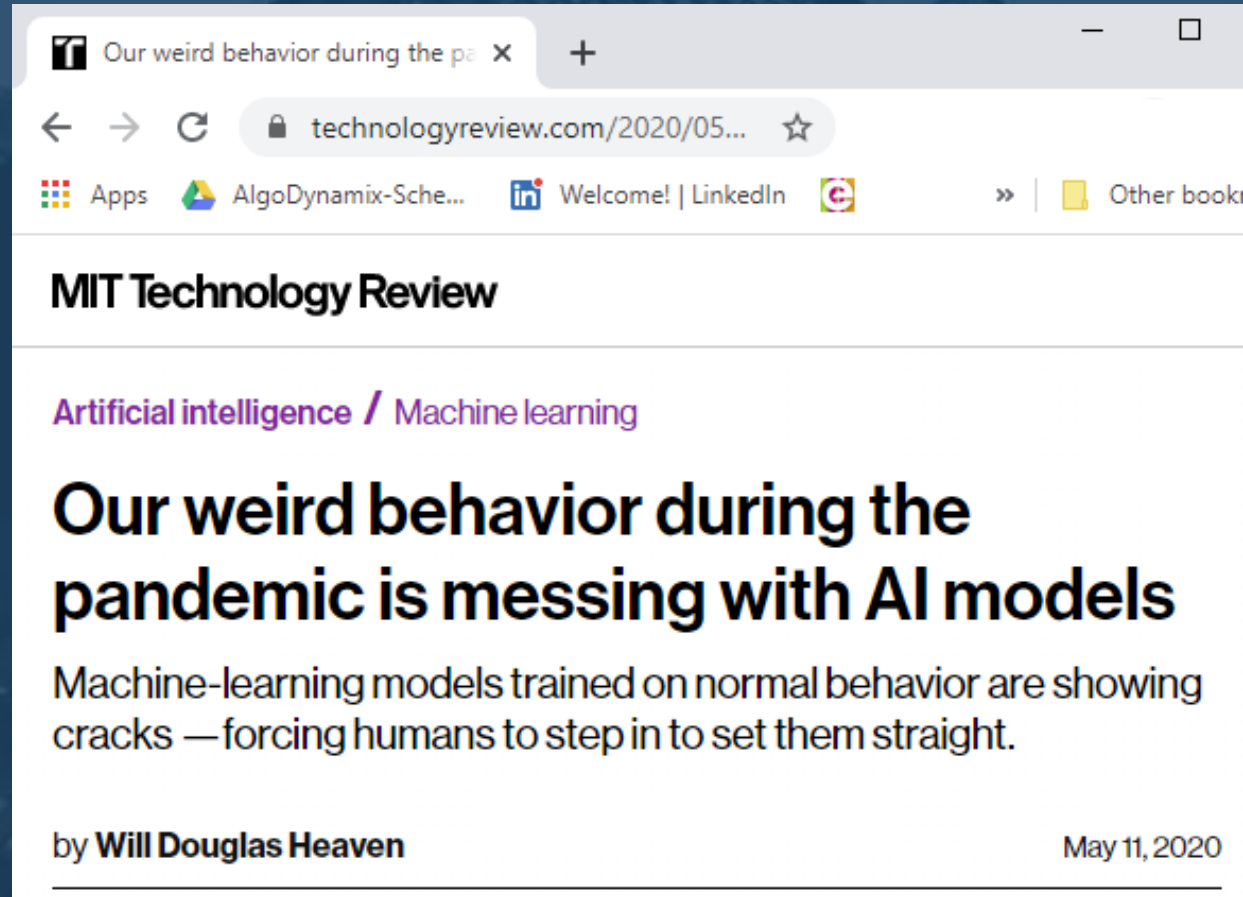
Probably yes this time for transformational AI

(Nearly) always augmenting humans

Even basic automation has huge value

Are only luddites against automation?

Context 2



The screenshot shows a web browser window with the following content:

- Browser tab: "Our weird behavior during the pa x"
- Address bar: "technologyreview.com/2020/05..."
- Navigation icons: back, forward, refresh, star
- Bookmarks: Apps, AlgoDynamix-Sche..., Welcome! | LinkedIn, Other book
- Page header: MIT Technology Review
- Category: Artificial intelligence / Machine learning
- Article title: **Our weird behavior during the pandemic is messing with AI models**
- Text: Machine-learning models trained on normal behavior are showing cracks — forcing humans to step in to set them straight.
- Author: by Will Douglas Heaven
- Date: May 11, 2020

More context:

Not all AI is the same

Old school training and historical data not great for COVID type events

In finance: most often the future does NOT look like the past → Stop using historical data!

Devil is in the detail, transparency very important!

Forecasting examples



Hours/Days advance warning:

Advance warning of major directional market movements.

Example showing Up Flag and End Flag on MSCI large and mid-cap US equities. 'Quality stocks': stable earnings, dividends etc...

Next slide show Up Flag performance, i.e. how many Flags and typical % moves

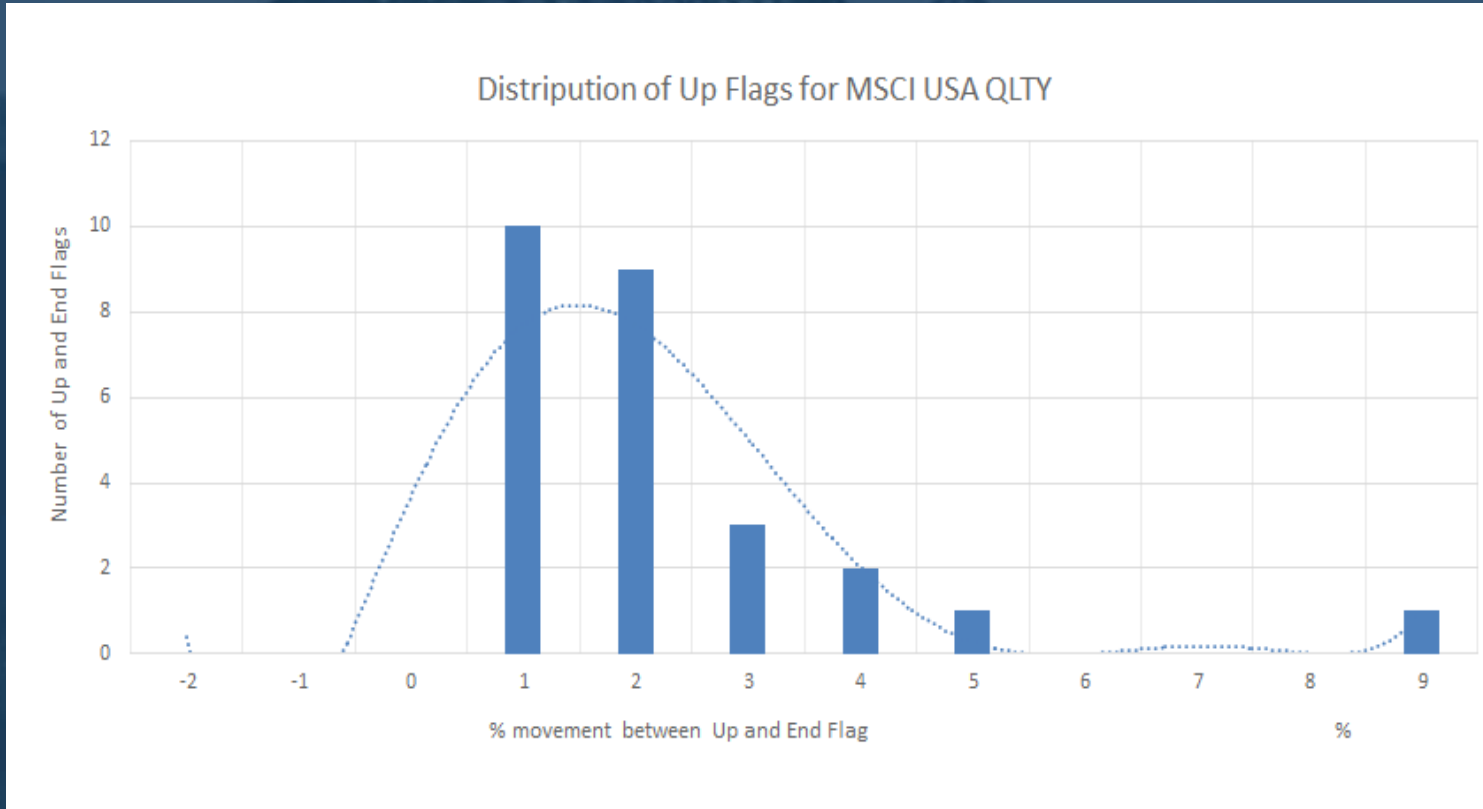
EQUITY

QUAL

**iShares Edge MSCI USA Quality
Factor ETF**

AlgoDynamix

Examples (1) Equities



Distribution of Up Flags over 3+ Years for 'Quality' stocks:

10 Up Flags are for moves of 1% or more

9 Up Flags are for moves of 2% or more....

Occasionally an 'extreme' Flag for 9% or more move

→ Results showing number of Up Flags and End Flags in past 3 years and the % moves between the Up Flags and End Flags

Examples (2) Commodities



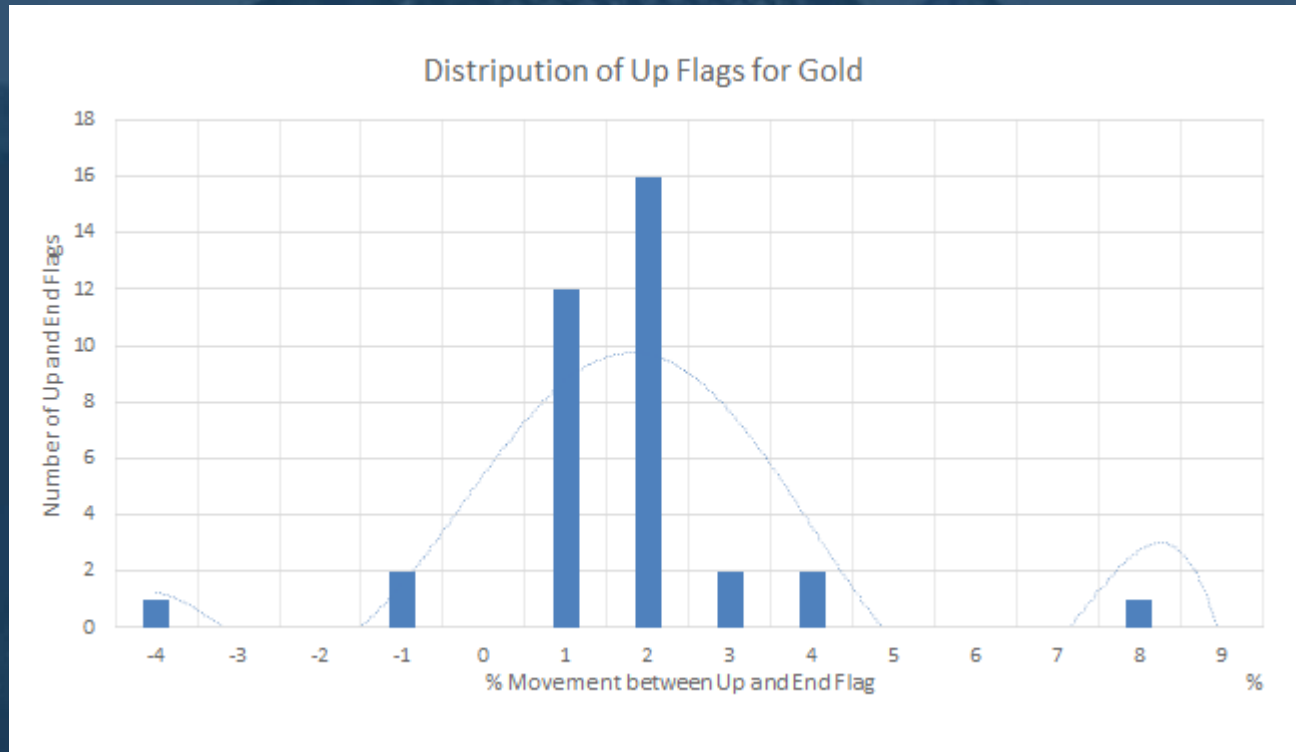
Hours/Days advance warning:

Advance warning of major directional market movements.

Example showing multiple Up Flags and End Flag on GLD/Gold fund

Next slide show Up Flag performance, i.e. how many Flags and typical % moves

Examples (2) Commodities



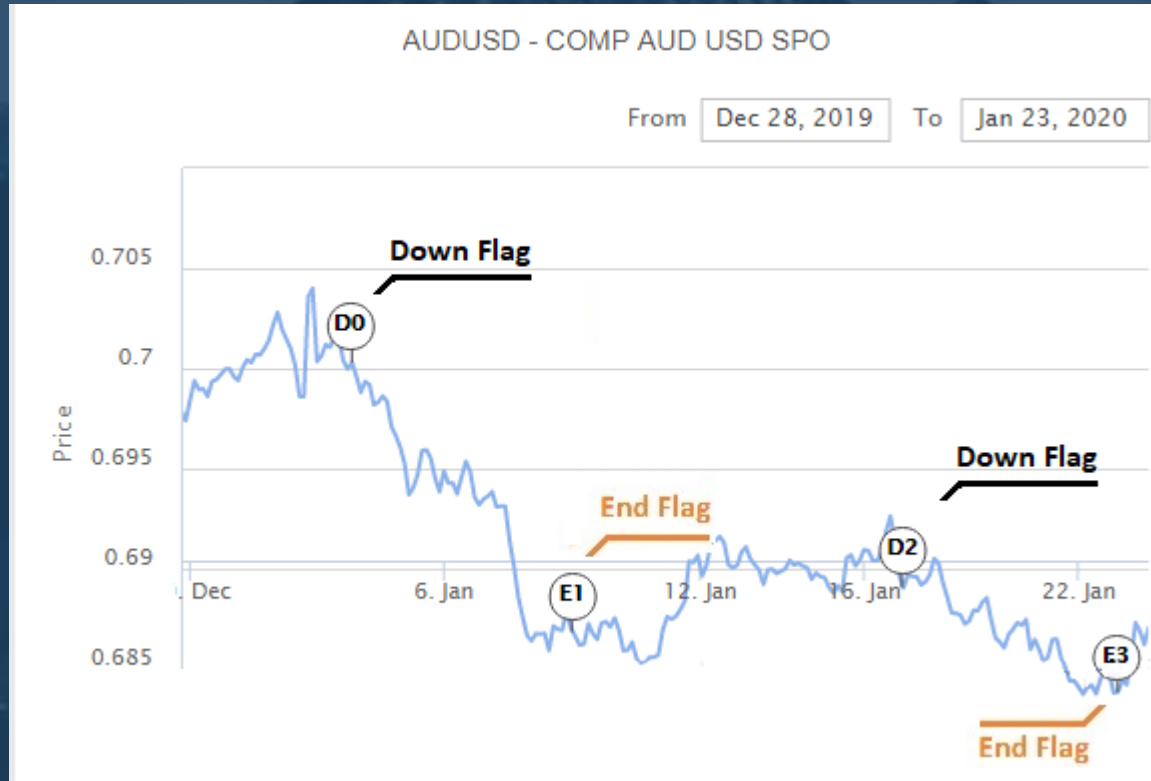
Distribution of Up Flags over 3+ Years for Gold:

16 Up Flags are for moves of +2% or more

Occasionally an 'extreme' Flag for +8% or more move

→ Results showing number of Up Flags and End Flags in past 3 years and the % moves between the Up Flags and End Flags for Gold

Examples (3) Currencies



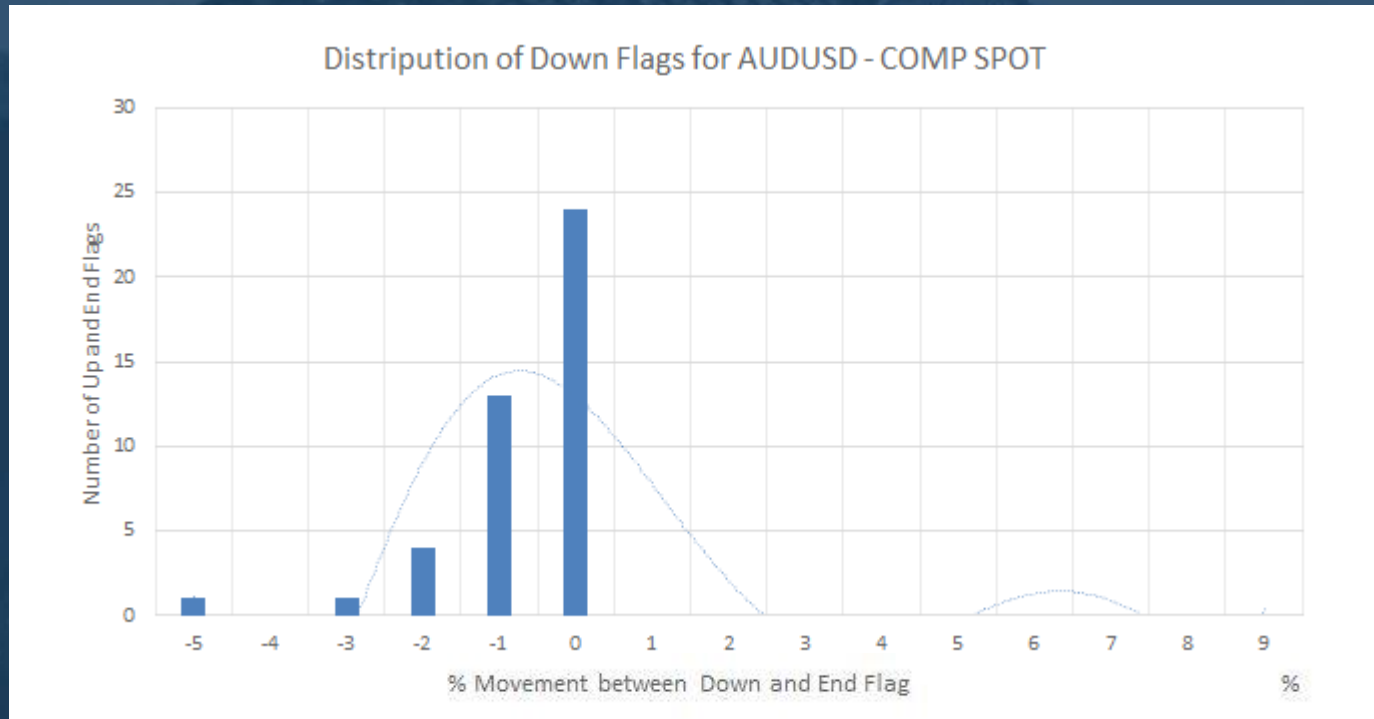
Hours/Days advance warning:

Advance warning of major directional market movements.

Example showing multiple Down Flags and End Flag on AUDUSD currency

Next slide shows Down Flag performance, i.e. how many Flags and typical % moves

Examples (3) Currencies



Distribution of Down Flags over 3+ Years for AUDUSD:

24 Down Flags are for moves of -0.44% or more

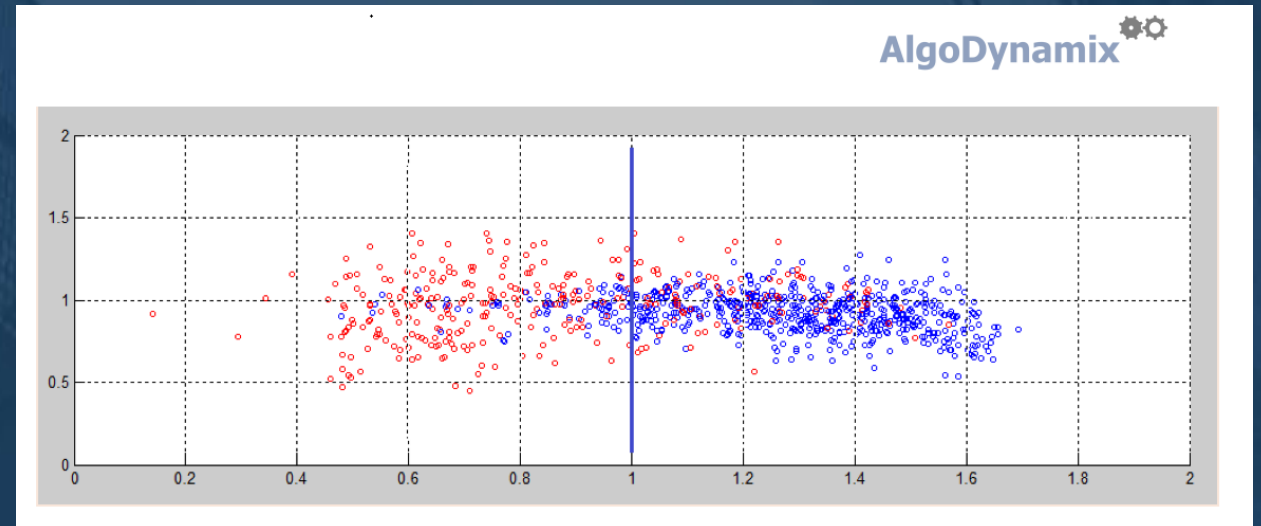
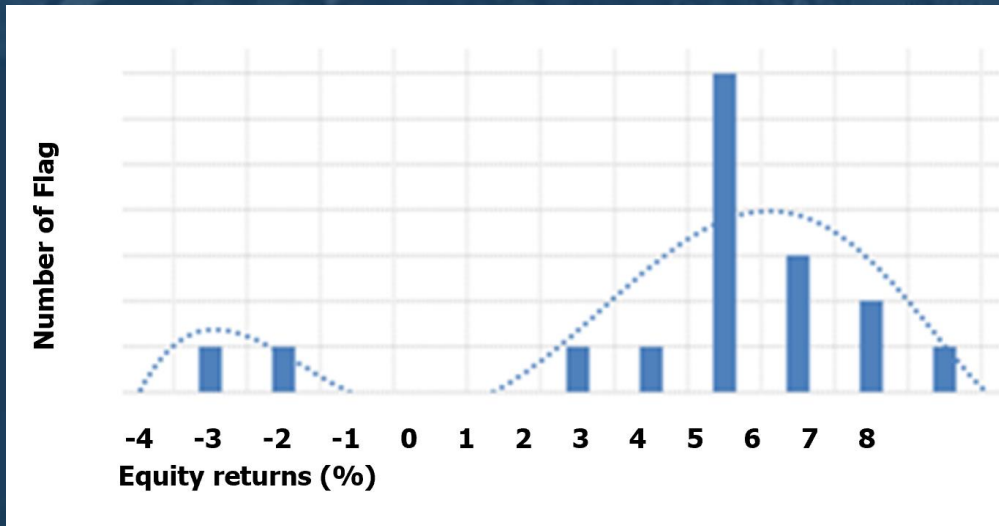
Remaining Down Flags are for -1, -2, -3 and -5% (these are very very big moves for currencies!)

These % values are 'unleveraged'

→ Results showing number of Down Flags and End Flags in past 3 years and the % moves between the Down Flags and End Flags

Background Material

Historical data, research notes etc...



Examples of previous Flag performance used to augment existing client trading & investment strategies.

Most asset classes

Instrument	Type	Direction
VIX	Volatility Index	↑ Up - End
VX	Volatility Index	↑ Up - End
VXN20 VX#1	Volatility Index	↑ Up - End
VXQ20 VX#2	Volatility Index Futures	↑ Up - End

Instrument	Type	Direction
AUDUSD	Currency Spot	↓++ Down - End
EURAUD	Currency Spot	↓ Down - End
GBPAUD	Currency Spot	↓ Down - End
GBPUSD	Currency Spot	↓ Down - End
USDCNH	Currency Spot	↓ Down - End

Instrument	Type	Direction
LG	Fixed Income Futures	↑ Up - End
TU	Fixed Income Futures	↑ Up - End
TY	Fixed Income Futures	↑ Up - End
XT	Fixed Income Futures	↑ Up - End
YT	Fixed Income Futures	↑ Up - End

→ Equities, Fixed Income, FX, Commodities, Volatility, even some real-estate!

→ Even better for multi-asset portfolios / exposure

Very Dynamic Times:

- Ongoing COVID-19 uncertainties
 - Political uncertainties everywhere
 - Ongoing Economic transformations (including more and more AI!)
 - Probably may other surprises ahead.
- AlgoDynamix provides clear directional price forecasting in financial markets ahead of time!
- Next few examples will cover some of our typical client use cases
- Very Important note that we do NOT use or need any client data
- We also don't use any historical data!

Machine learning (ML)

A ML bestiary

Decision trees

Naïve Bayes

Bayesian Nets

K-means clustering

Neural Networks

Genetic algorithms

Logistic regression

K-nearest neighbours

Associated rule learning

Hidden Markov Models

Support Vector Machines

Principal component analysis



Machine learning (ML)

Supervised v

Supervised learning

- Start with a labelled “training” data set
- Used for producing predictive models
- Examples are:
 - Classification
 - Regression

→ Works very well if the future looks a lot like the past....



Machine learning (ML)

Supervised vs unsupervised

Supervised learning

- Start with a labelled “training” data set
- Used for producing predictive models
- Examples are:
 - Classification
 - Regression

Unsupervised learning

- No labelling on the data
- Used for producing descriptive models
- Examples are:
 - Clustering
 - Association learning



Our Technology



- The AlgoDynamix risk analytics engine is based on 'deep data' agent-based algorithms scanning - in real-time - multiple quantitative primary data sources (order books and/or MLT venues).
- These algorithms analyse the dynamic behaviour of market participants, i.e. buyers and sellers, through our unsupervised machine learning technology which clusters them based on common feature sets.
- Noise classification, cluster identification and behavioural finance theory are part of our unique core capabilities
- Market anomalies occur when large clusters of buyers or sellers are identified, note that in the following slides everything still 'looks normal' but the deep data insights reveal a very different picture.

AlgoDynamix Analytics Engine

Underlying technology (behavioural) -> 'Cluster the limit order book'



Nobel Prize in Economics



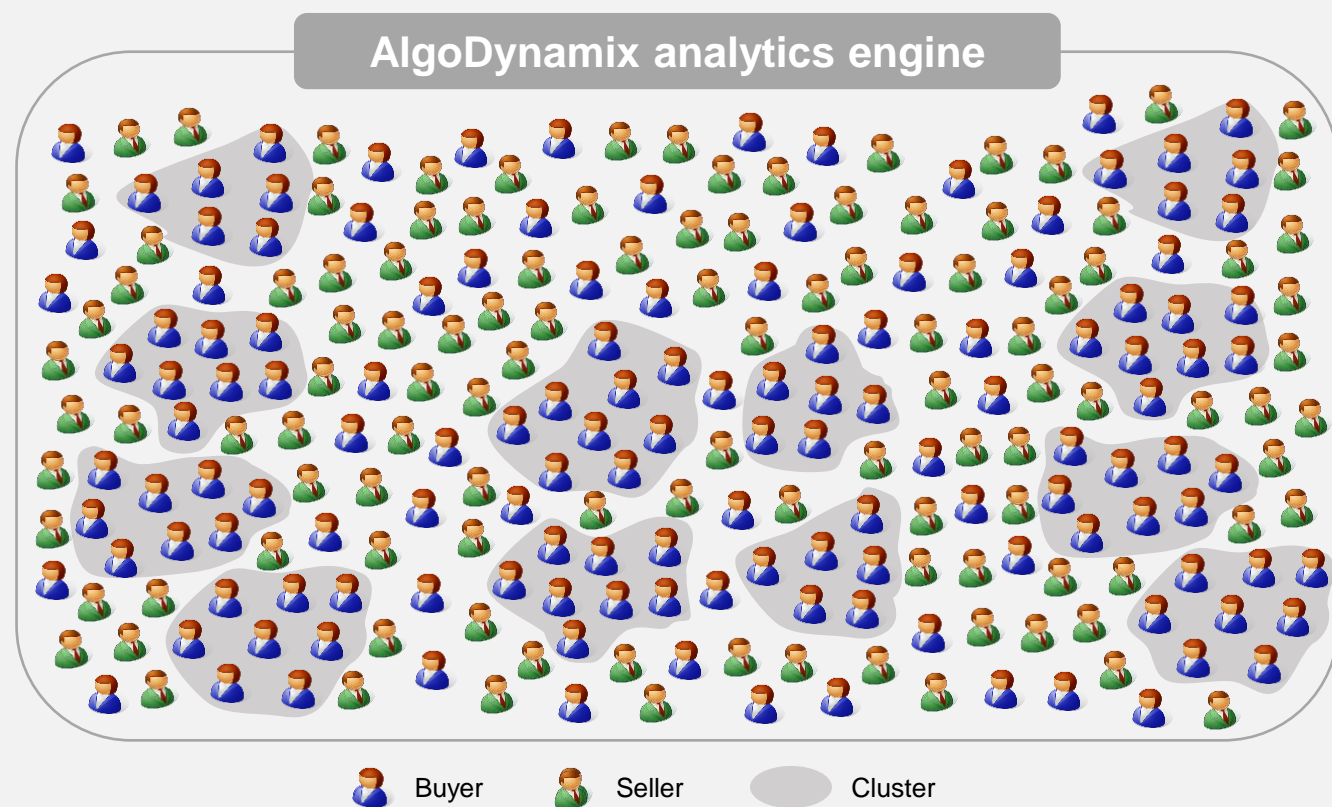
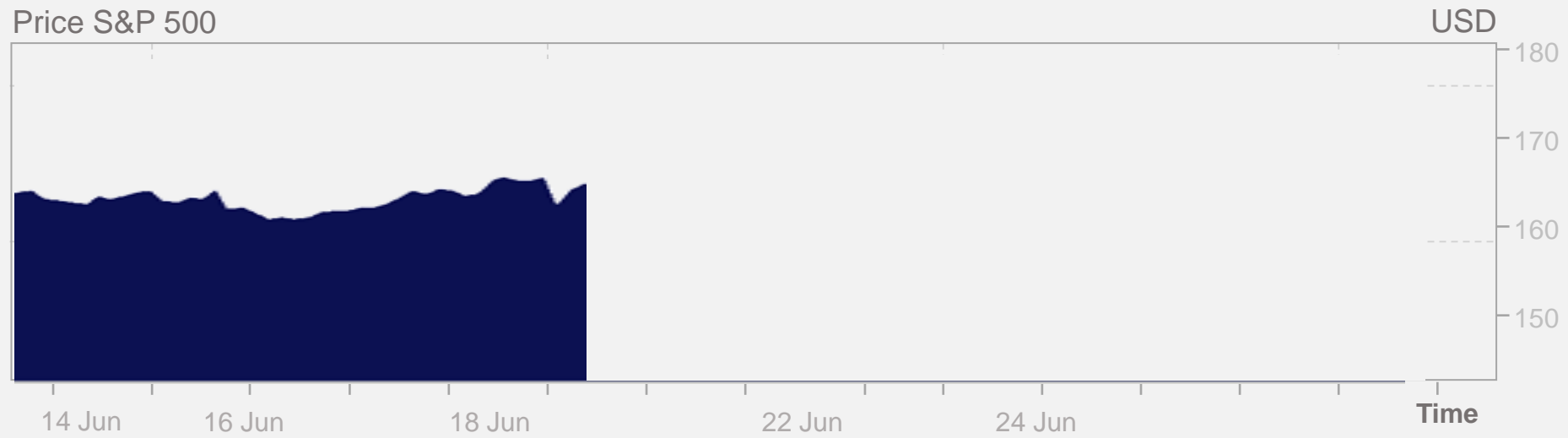
The 2017 Nobel Prize in Economic Sciences has been awarded to Richard Thaler of the University of Chicago for his pioneering work in behavioural economics

RECENT LAUREATES

Richard Thaler
Behavioural Economics Explained

Source: Nobelprize.org

'Normal' market conditions

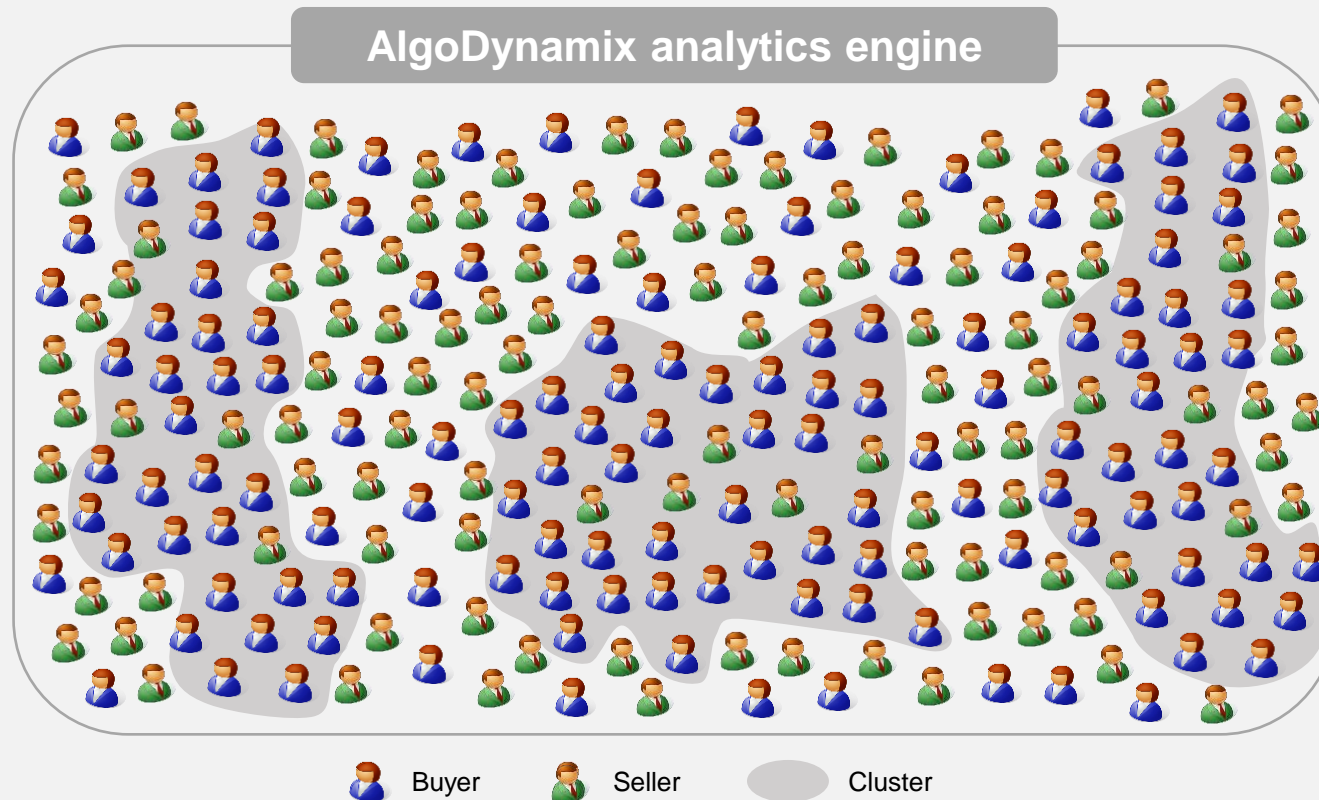
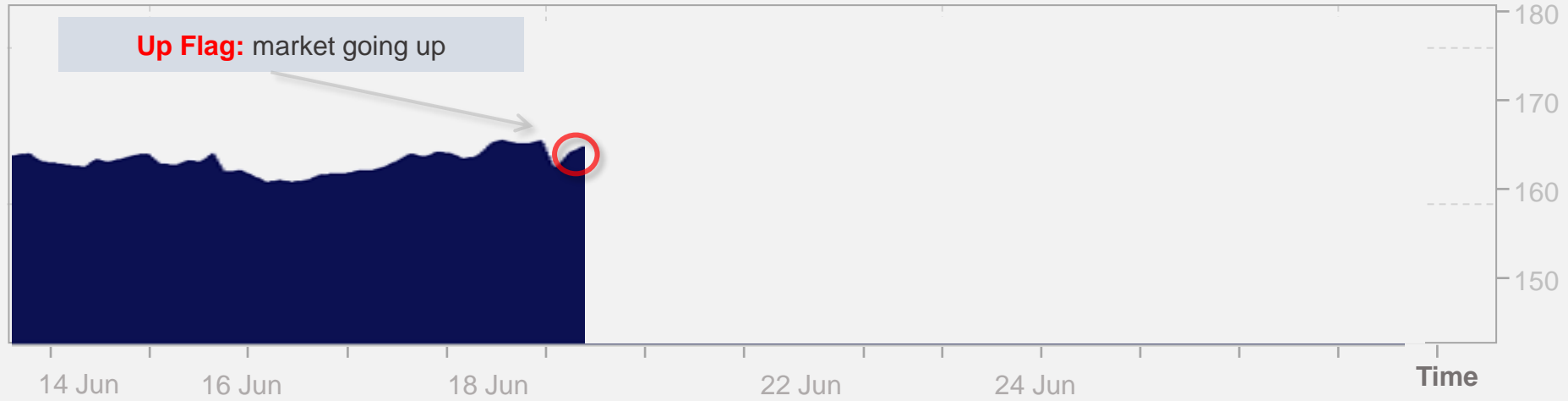


- Software identified 'clusters' of user-behaviour
- Within each cluster, users have comparable feature sets
- Cluster identification amongst noisy buyers and sellers is part of our unique core capabilities

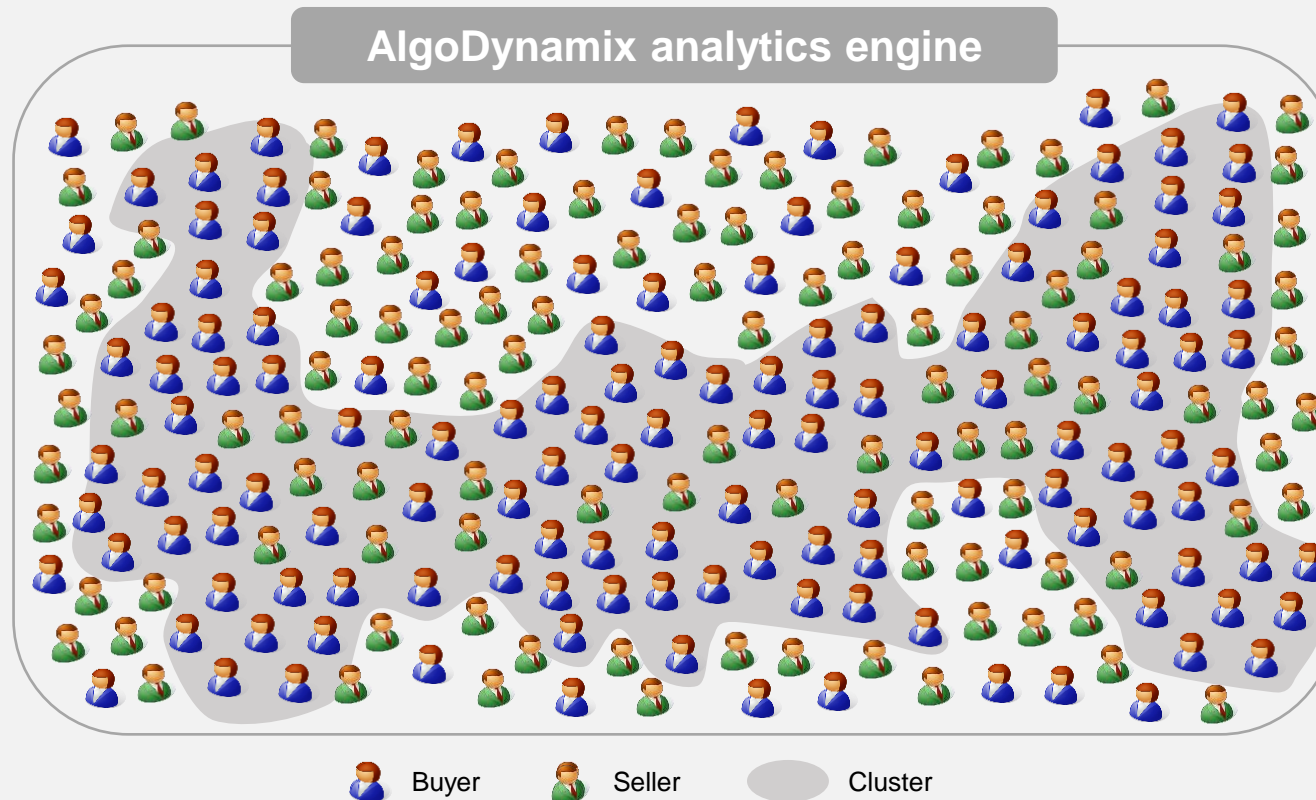
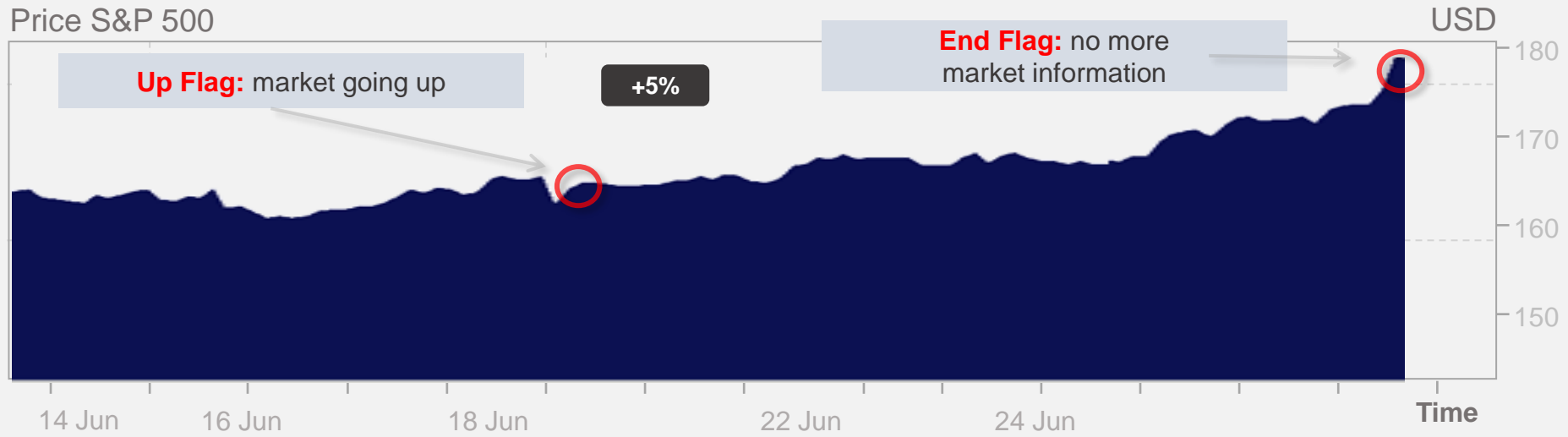
Up Flag conditions

Price S&P 500

USD



- Software identified 'clusters' of user-behaviour
- Within each cluster, users have comparable feature sets
- Cluster identification amongst noisy buyers and sellers is part of our unique core capabilities



- Software identified 'clusters' of user-behaviour
- Within each cluster, users have comparable feature sets
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Client Use Cases

In coronavirus-infected volatile markets, advanced algorithms give fact-based early warnings

One of the top percentile performers is HighGuard Capital's award-winning Guardian Opportunity Fund, LP, which has achieved success by harnessing the breakthrough forecasting analytics engine from AlgoDynamix Ltd.

Although the market and many funds are down by 15% to 25% since February, Guardian Opportunity's returns have continued to outperform the benchmarks. By incorporating AlgoDynamix's forecasting algorithms into its trading models, the Fund is one of the few hedge funds showing profits so far this year. It has outpaced both the S&P 500 and Dow Jones Industrial Average by an estimated +21.76% and +23.20%, respectively, year-to-date, as of March 31.

Q4 Release : Factor model forecasting!

VLUE	Equities
MTUM	Equities
SIZE	Equities

Hours/Days advance warning:

Value, Momentum, Quality or
Size tilts

→ Release later this year

→ Even more relevant for Value and other types of 'style' investing

Thank You: Q&A



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Questions & Discussion, Answers?



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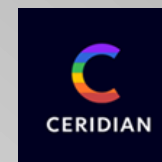


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Forthcoming Webinars

- 27 July 2020 (15:30) [Global Britain – Polarisation, Grey Zone and Hybrid Conflict](#)
- 28 July 2020 (12:00) [Unfit For Purpose: What Has Gone Wrong With Our Pension System And How We Will Fix It?](#)
- 29 July 2020 (10:00) ['Innovation As If The Future Mattered': EIT Climate-KIC On What To Do With Covid-19 Recovery Funding](#)
- 30 July 2020 (11:00) [Resilience Re: Designing A Public-Private Response To Pandemic & Other Systemic Risks](#)

Visit <https://fsclub.zyen.com/events/webinars/>

Bonus Event: "Leadership in a Crisis - Clarity and Empathy"

Webinar on Thursday, 30th July 2020 at 14:00 – 15:00.

More info at geniusboards.co.uk