AlphaBlock

E&R™ Model Portfolios

Alpha - portfolio outperformance above the market benchmarks

Profile

AlphaBlock Technologies Inc. is a Toronto-based company on a mission to disrupt the investment management model by building machines that beat the market. Its "Universal-indexing" method has been calculated and validated by NASDAQ and has received an MIT Fintech award for its innovative technology. The company licenses its technology across multiple geographies.

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Methodology

Differentiation of Machine Beta

Diversification and risk reduction

AlphaBlock's Machine Beta differentiates itself from traditional investment approaches through its advanced use of Statistical Factors and Non-Linear Mechanisms. This innovative methodology is designed to counteract the inherent biases in market capitalization (MCAP) weighted benchmarks, which are prevalent in traditional indices like the S&P 500. Machine Beta's focus is on achieving lower tracking errors and outperforming market benchmarks. This approach represents a significant shift from the weight obsessiveness and biases of traditional methods, offering a more balanced and diversified investment strategy.

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Source: Machine Beta, Statistical Factors, Non-Linear Mechanisms and the [3N] Methodology

[3N] vs. MCAP
Allocation

The barbell approach of Machine Beta stands in stark contrast to the MCAP weighting approach. In Machine Beta, stocks are classified into three categories based on their performance across different rolling quarterly periods: Statistical Value (V), Statistical Growth (G), and Statistical Core (C). This classification uses quintiles, ensuring a more balanced representation and avoiding the fluctuating weights typical of MCAP indices. Furthermore, Machine Beta employs a fixed weighting scheme, with Value and Growth components each receiving a 40% weight and the Core component 20%. This stable allocation method is a notable divergence from traditional indices, where weights change with every price fluctuation, often leading to skewed market representation and increased investment risks.
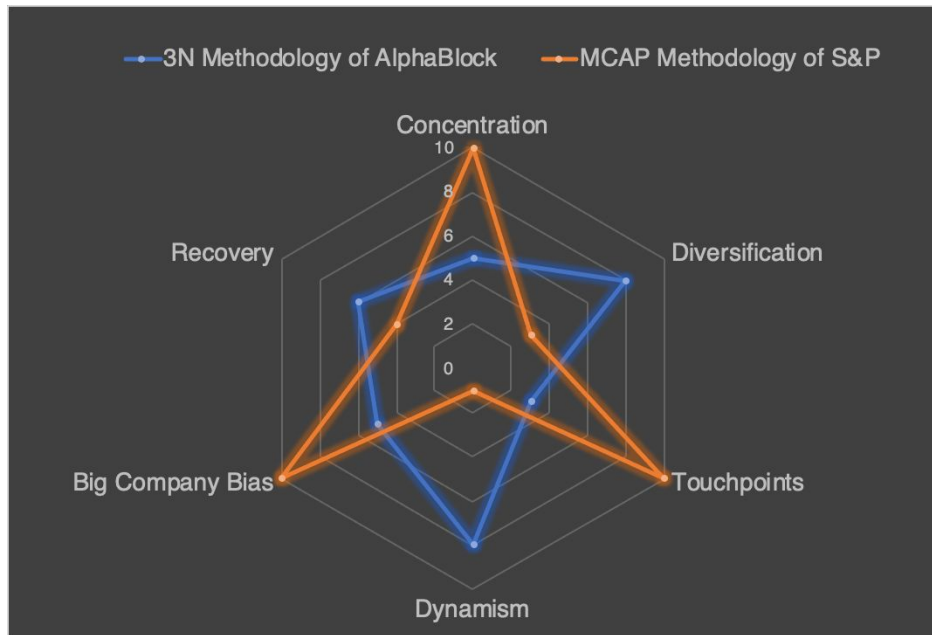
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MCAP Critique

Winner's bias vs. probabilistic approach

MCAP is a winner's biased approach which can take years to recover, when the few winning stocks don't perform. While the [3N] Methodology adopts a bias-agnostic approach that incorporates an understanding of bias generation and a complex interplay of stochastic and deterministic trends. Statistical factors in this methodology are defined as being forecastable and non-forecastable simultaneously, persisting and failing to persist, and having signal and noise, all expressed in probabilistic degrees.
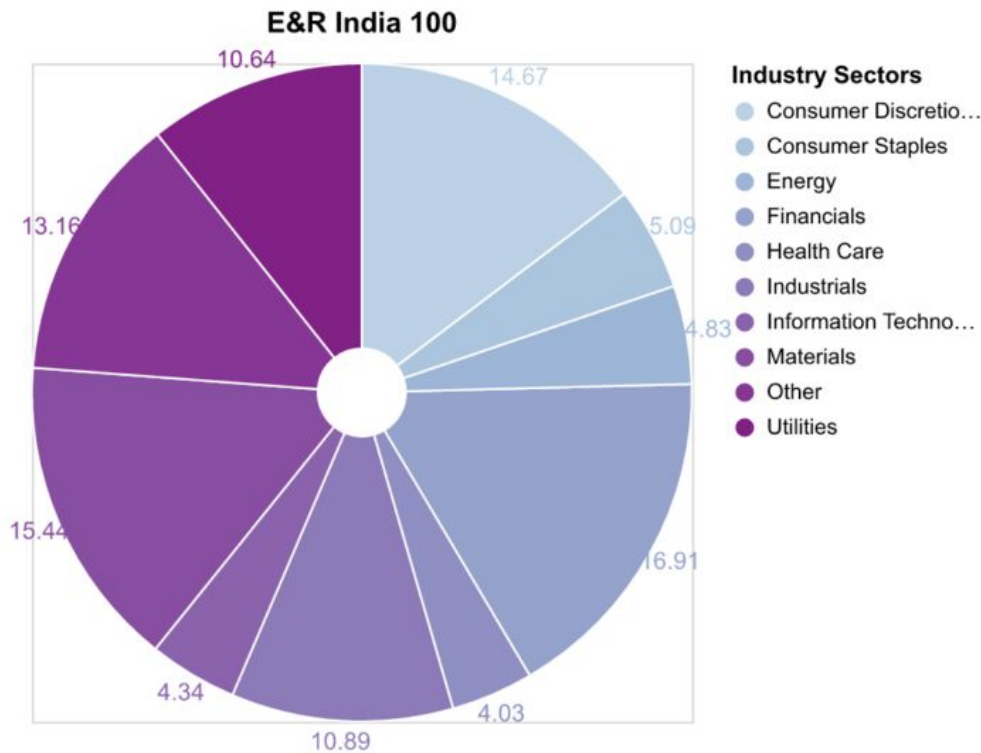
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Comparatives

The 3N methodology improves on the shortcomings of the MCAP methodology

Feature	3N	MCAP
Diversification	➕	✖
Recovery	➕	✖
Concentration	✖	➕
Big Companies Bias	✖	➕
Dynamism	➕	✖
Touchpoints	✖	➕

Radar chart comparing 3N Methodology of AlphaBlock and MCAP Methodology of S&P across Concentration, Diversification, Touchpoints, Dynamism, Big Company Bias, and Recovery.

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E&R India 100

Sector Breakup %

E&R India 100

Industry Sectors
- Consumer Discretio…
- Consumer Staples
- Energy
- Financials
- Health Care
- Industrials
- Information Techno…
- Materials
- Other
- Utilities

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Top 10 Components

Nr./Symbol		Name	Current Price	P&L(%)	E&R India 100 Proportion(%)
1	524804	Aurobindo Pharma Ord Shs	1123.15	154.57	3.70
2	500251	Trent Ord Shs	3172.70	154.03	3.63
3	500257	Lupin Ord Shs	1405.15	90.52	2.77
4	500049	Bharat Electronics Ltd	185.65	87.62	2.68
5	533150	Godrej Properties Ord Shs	2211.85	84.42	2.64
6	530965	Indian Oil Corp Ord Shs	130.55	66.20	2.41
7	500182	Hero MotoCorp Ord Shs	4143.20	52.40	2.21
8	532868	DLF Limited	794.60	11.06	2.19
9	540762	Tube Investment of India Ltd	3913.75	10.73	2.18
10	542830	Indian Railway Catering and Tourism Corporation Ltd	941.55	47.97	2.11

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Performance Plot Since Jan 2023

Top 10 Comparisons

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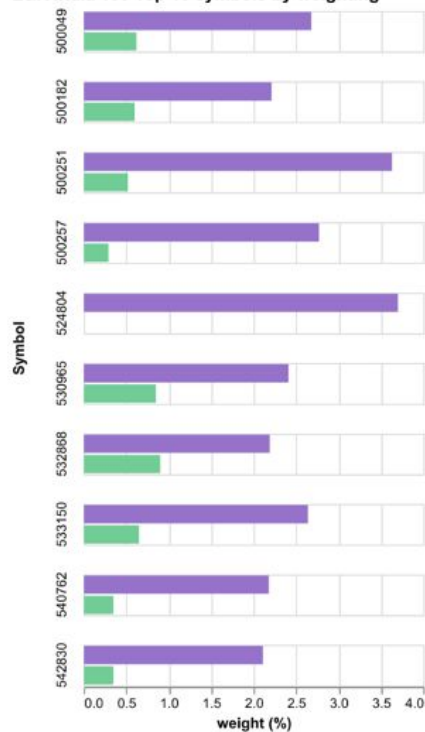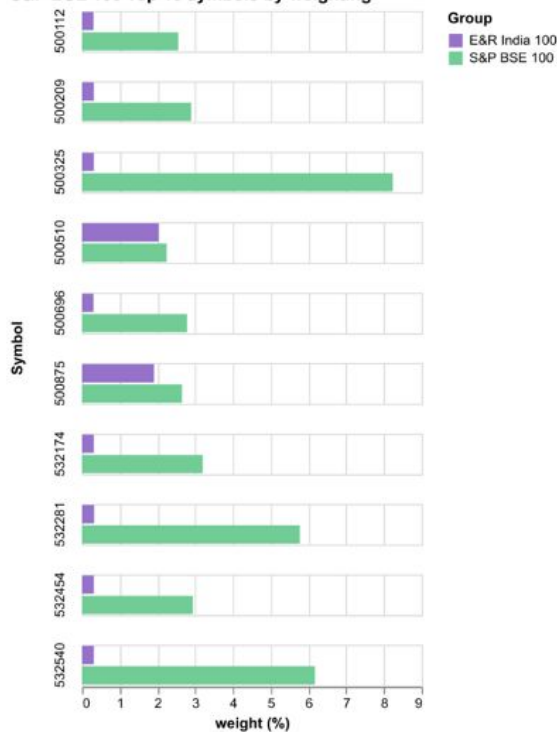
Performance Metrics

Nr./Name		E&R India 100	S&P BSE 100
1	Performance (%) since January 2024	1.02	-0.24
2	Current Portfolio Value (Invested in January 2023)	137.70	120.47
3	Annualized (%) Return (Since January 2023)	36.87	20.04
4	Annualized Std. Deviation (%)	11.45	9.35
5	Average Tracking Error (%)	4.87	-
6	Average Information Ratio (%)	0.55	-

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E&R India 30

Performance Plot Since Jan 2023

Portfolio Value vs Date line chart showing two groups: E&R India 30 (purple) and S&P BSE Sensex (green), from Jan 2023 to Dec 2023.

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Performance Metrics

Nr./Name		E&R India 30	S&P BSE Sensex
1	Performance (%) since January 2024	-4.42	-0.85
2	Current Portfolio Value (Invested in January 2023)	122.13	116.91
3	Annualized (%) Return (Since January 2023)	21.67	16.56
4	Annualized Std. Deviation (%)	10.02	9.61
5	Average Tracking Error (%)	2.16	-
6	Average Information Ratio (%)	1.50	-

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E&R India MidCap Select

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Performance Plot Since Jan 2023

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Performance Metrics

Nr./Name		E&R India MidCap Select	S&P BSE MidCap Select
1	Performance (%) since January 2024	0.92	1.11
2	Current Portfolio Cash (%)	0.00	-
3	Average Cash (%) in Portfolio (Historical)	0.00	-
4	Average Holding Period (Days)	0.00	-
5	Current Portfolio Value (Invested in January 2023)	143.26	141.46
6	Annualized (%) Return (Since January 2023)	42.43	40.67
7	Annualized Std. Deviation (%)	11.91	11.16
8	Average Tracking Error (%)	2.29	-
9	Average Information Ratio (%)	-0.42	-

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Validation

Validation

Across India, Europe, Canada

We run USD 50 million across three geographies, across 5 mandates, which have topped their category.

U.S. (NASDAQ)

From Aug 2014 - Apr 2021, AlphaBlock's <RMIVG20> **outperformed** Nasdaq Composite Benchmark (NQUSB) by an annualised **590 basis points or 5.9%**

Europe

From Jun 2019 - Mar 2021, AlphaBlock's European Energy sector fund delivered an absolute return of **40.62% beating** the STOXX 600 benchmark by **26.4%**

MIT Fintech Award, 2016

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Technology

Data sourcing, preparation
And maintenance

The data for this investment strategy is sourced from Yahoo Finance and end of day data data feed providers and stock exchanges. This data includes both fundamental and price-related details. The volume of data spans an extensive period, ranging from 5 to 25 years. This data is indexed, ranked, and categorized according to the [3N] methodology.

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Machine Learning

Is focussed on adapting complex system thinking to data and learning

In the context of feature selection and data processing our approach marks a significant departure from traditional methodologies which don't focus on the markets as complex systems. The [3N] approach focuses on behaviour of statistical factors and not components (Stocks). Our method captures the inherent dynamism and complexity of market movements e.g. the interaction of 30 Indonesian stocks in the IDX 30 Indonesia group and calculates a probability of performance for each stock and uses it to to allocate into the stock.

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Process Flow

[3N]
Method
Complex Systems
Modern Science
Research

Machine
Learning
Inputs
Neural Networks,
Random Forest
Regressor etc.

Data Feeds
Yahoo Finance
Stock Exchanges

Panel Data
Preparation
Components
with Benchmark

Group
Percentile
Multi-Period
Ranking

Algorithmic
Inputs
Statistical Factors
and Allocations

Portfolio
Generation
E&R Model
Portfolios

APIs

Portfolio
Maintenance
Rebalancing
Signals

Visualization
(React)
Performance,
Risk,
Comparatives

Performance
Attribution

GitHub

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Source: Revolutionising Active Investing with Machine Learning

FAQs

How is the investment portfolio constructed in the IE 30 brand?
We take all 30 stocks and the algorithm ranks and weights each component and rebalances on a fixed month schedule.

How is the security of investor information and data ensured?
We don't store information. We seek trade confirmations not client or investor information.

How is its technology (AI) integrated into the platform?
Everything from data feeds till ranking till portfolio construction till portfolio maintenance all is embedded in technology.

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Thank You