

# Alphathena

## Unified WealthTech Infrastructure for Personalization

Enabling Platforms and Advisors to offer Personalized Investing

Build > Customize > Optimize > Invest > Manage

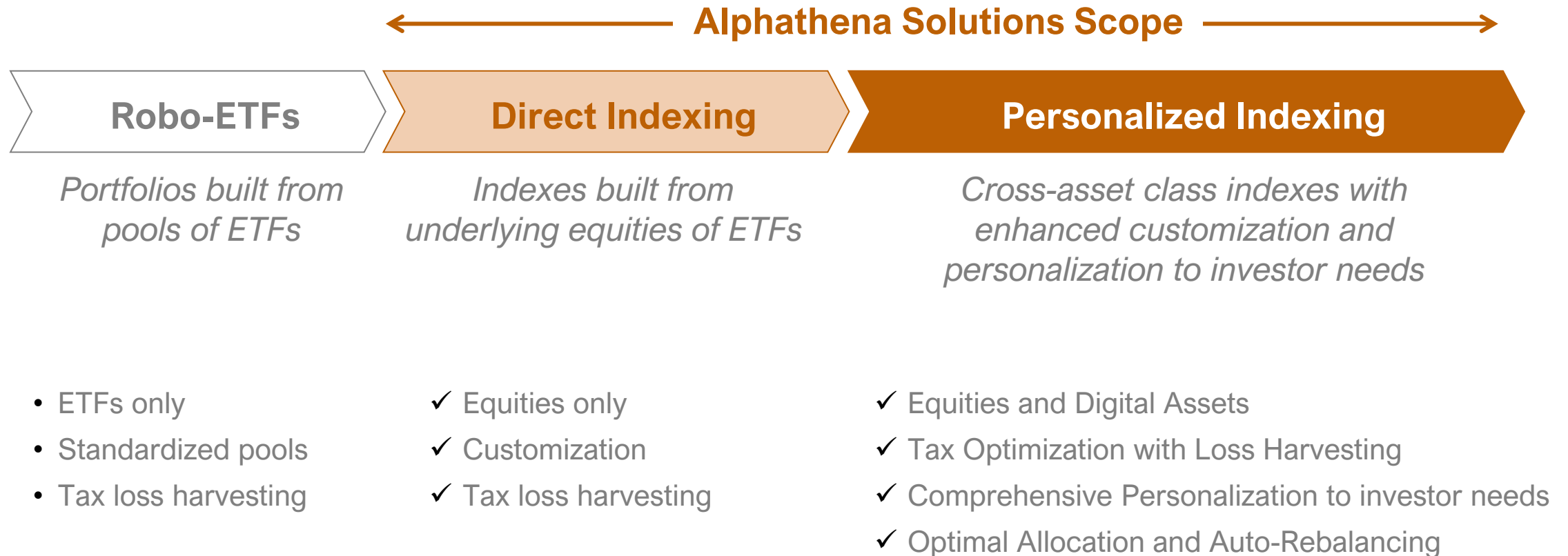
<https://www.alphathena.com>

[mohan@alphathena.com](mailto:mohan@alphathena.com)

[tushad@alphathena.com](mailto:tushad@alphathena.com)

# Personalized Indexing

## *Direct Indexing with AI-enhanced Personalization*



# Solutions

*API and Web solutions for personalized investing services*



**Direct  
Indexing**



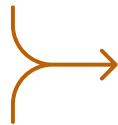
**Personalized  
Indexing**



**Tax Loss  
Harvesting**



**Auto  
Rebalancing**



**Portfolio/Index  
Reduction**



**Digital Asset  
Indexing**

## ***Purpose Built***

- ✓ Differentiated
- ✓ Cost Conscious
- ✓ Managed Lifecycle
- ✓ Advisor Time Efficient

# Why Now?

## *Market and technology evolving to enable personalization*



### **Race to \$0 Commissions**

*facilitating investing in large index-like portfolios*



### **Fractional Share Availability**

*enabling optimal allocation across wide variance of prices*



### **Digital Asset Mix**

*diversifying beyond traditional equity-focused investing*



### **ESG & Sustainability Impact**

*significantly influencing retail investor preferences*



### **Tax Considerations**

*becoming integral to investing and asset allocation*

*15%\* of passive assets  
across  
Advisor Platforms, RIAs,  
Fintech Platforms  
expected to shift toward  
**Personalized Indexing***

\* <https://www.oliverwyman.com/content/dam/oliver-wyman/MSOW%20-%20Wealth%20and%20Asset%20Management%20Report.pdf>

# Indexing Platform

## *Unified Personalized Indexing Platform for Equity and Digital Assets*



### **Passive Investment with Personalization**

*Flexible Personalized Indexing for advisors with end-to-end lifecycle support to create, customize, invest in, and administer indexes*



### **Customization and ESG Focus**

*Highly usable, natural language search and customization across ESG and 100+ additional factors*



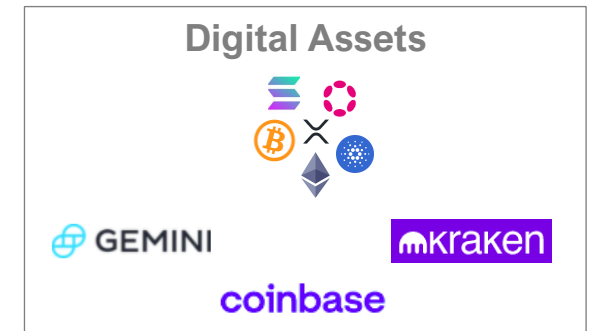
### **AI-enhanced Allocation and Tax Optimization**

*AI platform for real-time Allocation, Tax Optimization, Auto-rebalancing, Loss Harvesting, and backtesting metrics*



### **Exposure across Asset Classes**

*Single source for Equity and Digital Asset indexes with back-office connectivity across multiple equity custodians and crypto exchanges*



*Open API platform built for front and back-office connectivity*

# Features

## End-to-end Personalized Indexing solution

### Create



#### Setup

ETFs/Indexes  
Themes/Crypto baskets  
Natural language search



#### Customize

40+ factors  
Equity fundamentals/technicals  
Crypto sectors/categories



#### Optimize

AI allocations  
Tax optimization  
Realtime metrics

### Invest



#### Execute

Invest Personalized Indexes  
Connect back-office equity  
custodians & crypto exchanges



#### Monitor

Monitor and track Personalized  
Index & theme performance  
Track investor engagement



#### Rebalance

Rebalancing rules and triggers  
Harvest tax losses  
Index change recommendations

### Manage



#### Publish

Publish User Indexes  
Publish system-wide themes  
Template tax optimizations



#### Test

Backtest performance  
Equity/Crypto factor tuning  
Paper Investing



#### Admin

Manage Themes/Indexes  
Publish system-wide themes  
Manage user/index mapping

# Preconfigured Themes

*Choose from dozens of pre-configured Personalized Indexing themes...*



Environmental Impact



Electrification & Green Energy



Agri-business & Sustainable Farming



Diversity in Leadership



On the Pandemic Frontlines



Cloud & Internet Infrastructure



Web & Social Media



Remote Work Enablement



Pharma & Biotechnology



Artificial Intelligence



Momentum & Growth



Value & Dividend



COVID Recovery



eSports FTW!



Blockchain & Crypto

*... or roll your own via our API*

Endpoint:

<https://api.alphathena.com/v1/index>

POST:

```
{
  "query" : {
    "base_index": ["SPX"],
    "esg_score": [30],
    "esg_environment": [50],
    "sectors_exclude": [
      "Utilities", "Real Estate"
    ],
    "subsectors_exclude": [
      "Oil & Gas Equipment & Services",
      "Oil & Gas Exploration & Production"
    ],
    "countries": [
      "United States of America", "Canada"
    ],
    "technicals": [
      "Momentum", "Growth"
    ],
    "risk_factor" : 0.5
  }
}
```

# Digital Assets and Crypto

## Comprehensive Crypto index creation and customization



### Create and Customize Digital Asset Indexes

Create crypto indexes and customize by sector, allocation, market cap and other factors to meet specific investor needs



### Curated Crypto Indexes

Specially curated starter indexes that cover vast span of digital assets



### Flexible Allocation

Allocate based on market cap or equal weighted, by category or sector



### Back-office Services

Integrate with your preferred back-office services or use our brokerage API partnerships

### Starter Indexes include

- Currencies
- Smart Contract Platforms
- Stablecoins
- Centralized Exchanges
- Decentralized Exchanges
- Top 100 Market Cap



Bitcoin



Ethereum



Solana



Cardano



XRP



Polkadot

# About Us

## Deep financial services and technology expertise



**Mohan Naidu**  
Founder



Piper Jaffray®



<https://www.linkedin.com/in/mohan-naidu/>

- 20+ years of Investment Research and Technology Experience
- Technical leadership roles at GE Healthcare
- Equity Research Leadership roles at Oppenheimer, Piper Jaffray
- MS Computer Engineering, CFA, MBA (Kellogg School of Mgmt)



**Tushad Driver**  
CoFounder



booz&co.



<https://www.linkedin.com/in/tushad-driver/>

- 21+ years of technology with computational science focus.
- Startup experience as VP of Products at Gray Matter Analytics
- Strategy and leadership roles PwC, Booz & Co, GE
- MS Computer Science, MBA (Kellogg School of Mgmt)



**Peter Layton**  
Advisor



<https://www.linkedin.com/in/peterjlayton/>

- 30Yr+ Experience in Financial Services
- CEO - Blackthorne Capital Mgmt.
- Former Partner at Goldman Sachs



**Ed Boyle**  
Advisor



<https://www.linkedin.com/in/edboyle/>

- 30Yr+ veteran in Financial Services
- Chairman of Box Exchange.
- NYSE, TD Securities, International Securities Exchange

# Web app and API solutions now available

---

## Home Page

<https://alphathena.com>

Everything you need to get up  
and started immediately!

## API Specs

<https://api.alphathena.com>

Models, Documentation,  
Sample Code

## Contact Us

### Mohan Naidu

MS, MBA, CFA

[mohan@alphathena.com](mailto:mohan@alphathena.com)

## Web App

<https://app.alphathena.com>

Our full solution for trial,  
currently in *beta*.

## Developer Portal

<https://devportal.alphathena.com>

Full API access and Sandbox

### Tushad Driver

MS, MBA

[tushad@alphathena.com](mailto:tushad@alphathena.com)

# *Product Features*

# Create

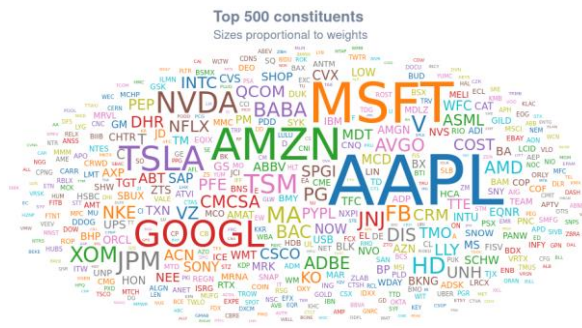
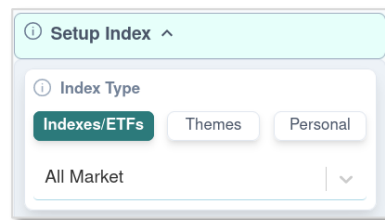
## Four ways to create and curate a Personalized Index

<b>Create</b>
Customize Factors
Customize ESG
Backtest Metrics
Optimize Allocations
Optimize Taxes
Rebalancing Rules
Save & Publish
Invest
Monitor
Harvest Tax Losses

### Option 1

#### All Market

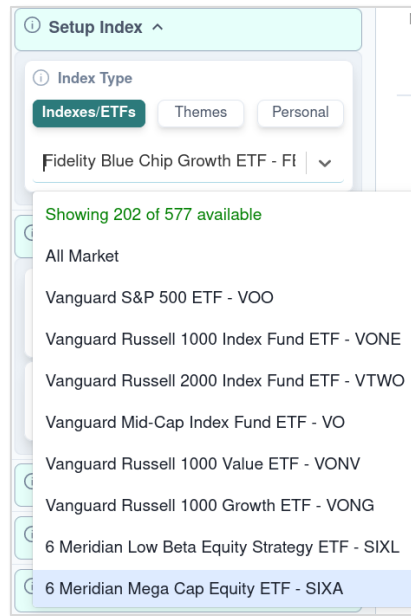
Start with entire market of 5600+ equities and 100+ digital assets



### Option 2

#### ETF/Index-based

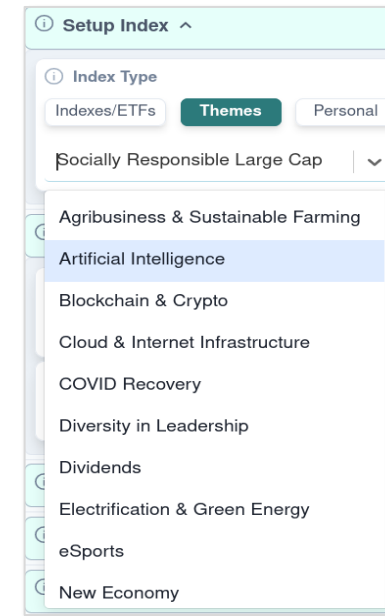
Grab underlying equities from any of 500+ indexes or ETFs



### Option 3

#### Theme-based

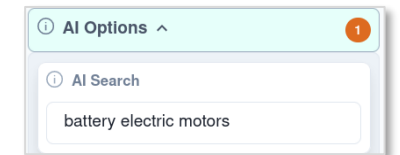
Choose from dozens of bespoke curated Themes



### Option 4

#### Freeform NLP Search

Use Natural Language Search to build your own index



# Customize Factors

Choose from 100+ factors, include or exclude specific criteria

Create
<b>Customize Factors</b>
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**Fundamentals** 3

**Market Cap** \$10B < 4T X  
Small Mid Large Mega  
\$100M \$500M \$2B \$10B \$200B \$4T

**Factor Style** m: 50 < 100 X  
growth momentum value  
0 25 50 75 100

**Beta** -2 < 2 X  
-4 -3 -2 -1 0 1 2 3 >4

**Yield** 3

**Dividend Yield** 0 < 15 X  
<-20 10 20 30 40 >50

**FCF Yield** -10 < 10 X  
<-20 -10 0 10 20 30 40 >50

**ROE (Trailing 12 months)** 0 < 20 X  
<-20 0 20 40 60 80 >100

**Growth** 2

**Revenue Growth** 0 < 60 X  
<-20 0 20 40 60 80 >100

**EPS Growth** 0 < 40 X  
<-20 0 20 40 60 80 100

**Valuation** 3

**EV/Revenue** 0 < 40 X  
<-20 0 20 40 60 80 >100

**PE Ratio** 0 < 100 X  
<-20 0 20 40 60 80 >100

**EV/EBITDA** 10 < 30 X  
<-20 -10 0 10 20 30 40 >50

**Inclusion Filters** 2

**Sector**  
Information Technology X Energy X Financials X

**Industry**

**Sub-industry**

**Country**

**Tickers**  
TSLA X GOOGL X  
FB X AAPL X

**Exclusion Filters** 2

**Sector**

**Industry**

**Sub-industry**

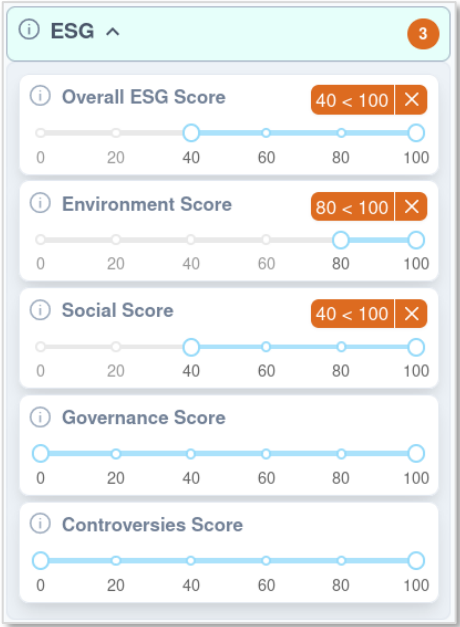
**Country**  
China X Russia X

**Tickers**  
GME X AMC X BB X

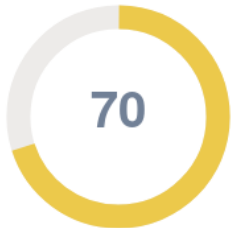
# Customize ESG

Adjust ESG factors for any index and assess the ESG Impact instantly

Create
Customize Factors
<b>Customize ESG</b>
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Overall ESG Score (out of 100)



Environmental Score



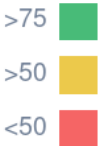
Social Score



Governance Score



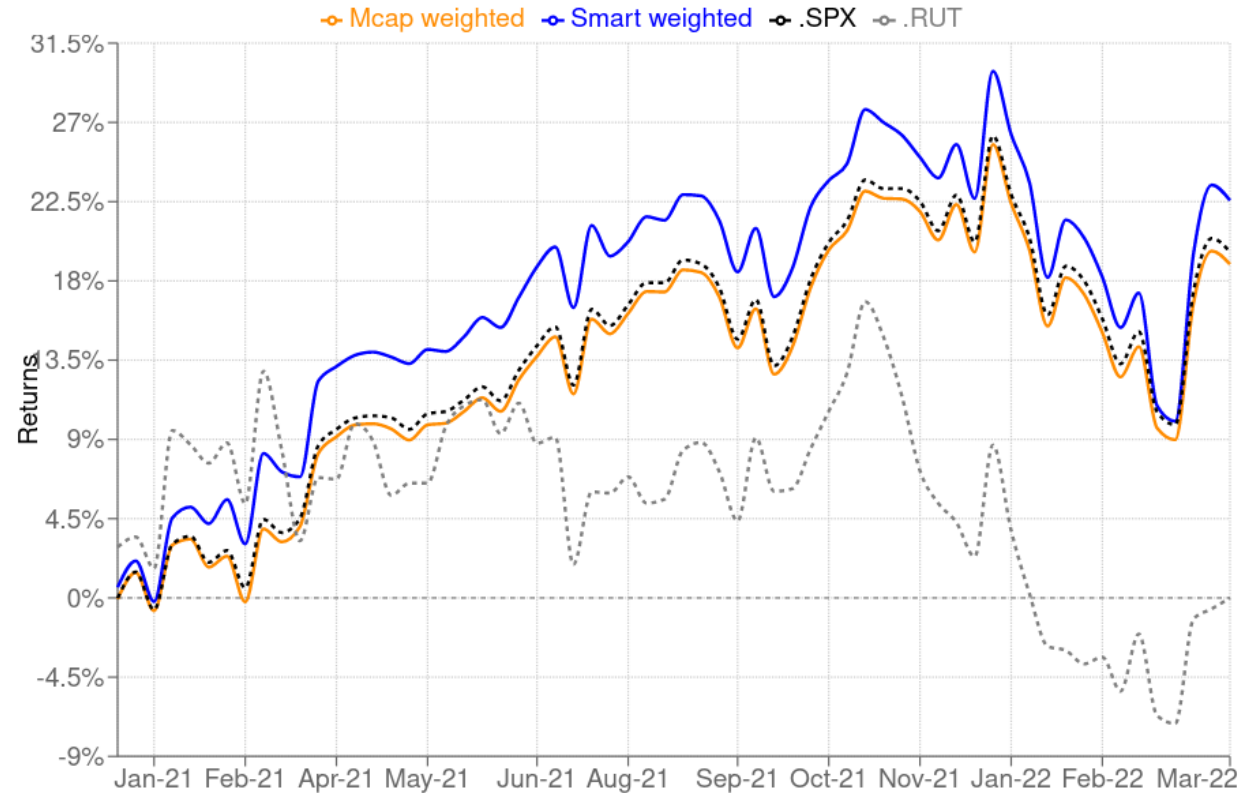
Controversy Score



# Backtest Metrics

*Backtest any index to assess performance and display metrics in real-time*

Create
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<b>Backtest Metrics</b>
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Metric	Smart Weighted	S&P 500	Russell 2000
Cumulative	22.57%	19.64%	0.00%
Expected	0.32%	0.29%	0.00%
Sharpe	0.50	0.44	-0.34
Sortino	0.82	0.69	-0.49
Best	8.66%	6.90%	7.69%
Worst	(5.46%)	(3.95%)	(6.62%)
Volatility	17.77%	15.32%	21.64%
Win Rate	51.61%	54.84%	50.00%
Skew	0.67	0.47	0.45
Kurtosis	1.58	0.68	0.20
Ulcer	0.04	0.04	0.09
UPI	2.83	2.45	-1.11
RoR	0.00	0.00	0.00
Profit Ratio	122.41%	99.59%	103.89%
Info Ratio	9.22%	0.00%	(14.5%)
Drawdown	(15.3%)	(13%)	(20.51%)

Additional TLH Engine Returns: 1.35%

# Optimize Allocations

*Optimize index allocations using multiple approaches*

Create
Customize Factors
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<b>Optimize Allocations</b>
Optimize Taxes
Rebalancing Rules
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Harvest Tax Losses

## Standard Allocations

- Equal Weighted
- Market Cap Weighted
- Index Weighted

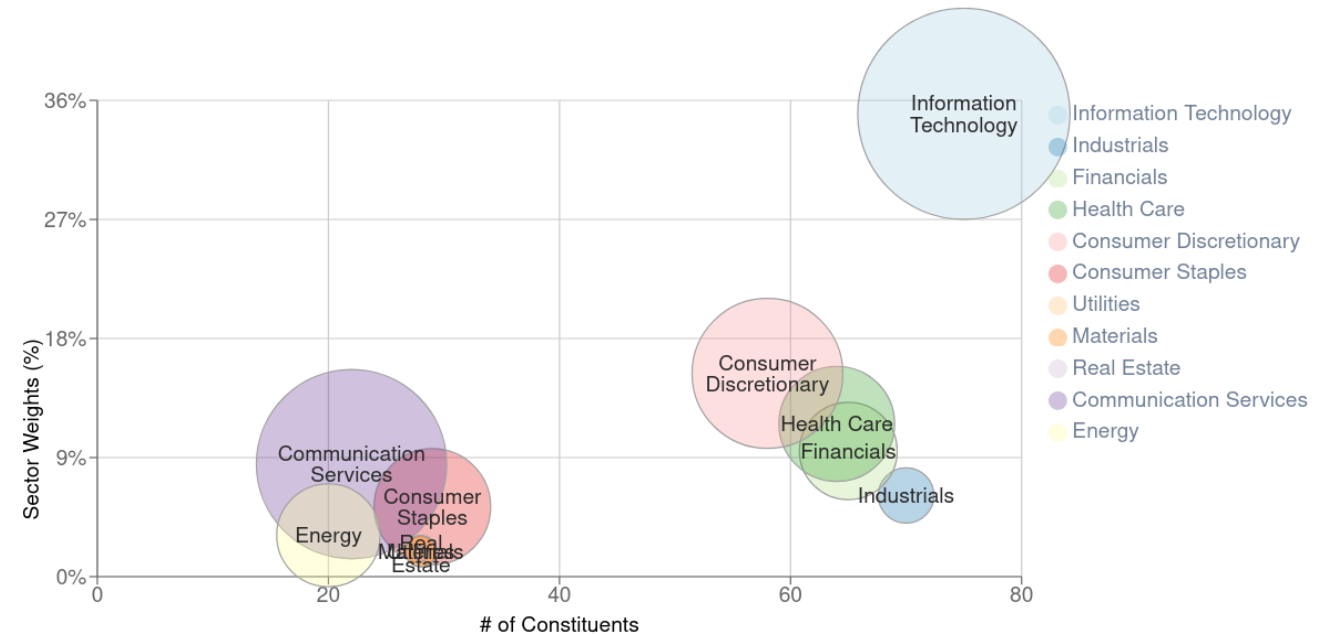
## Smart Allocations \*

- Minimize Tracking Error

## Custom Allocations

- Set your own allocation by Sector, Industry, or Ticker

\* In beta under active development

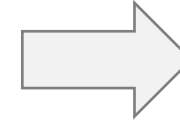


# Optimize Taxes

Optimize tax losses pre- and post-investment

## Pre-Investment

Identify highly similar securities to consolidate and create future pool for tax loss harvesting



## Post-Investment

Set harvesting rules and harvest tax losses identified for any invested index

- Create
- Customize Factors
- Customize ESG
- Backtest Metrics
- Optimize Allocations
- Optimize Taxes**
- Rebalancing Rules
- Save & Publish
- Invest
- Monitor
- Harvest Tax Losses

### AI Tax Optimizer ⓘ

Number of Opportunities <b>56</b>	Total Allocation Opportunity <b>6.59%</b>	Selected Opportunities <b>0</b>	Selected Allocation <b>0.00%</b>
--------------------------------------	--	------------------------------------	-------------------------------------

Optimize Tax Policy ^

Optimize Tax Policy Moderate ×

Strict ● Moderate Aggressive

Reallocate From >>				>> Reallocate To			Consolidated
<input type="checkbox"/>	Ticker	Name	Current Allocation	Ticker	Name	Current Allocation	Allocation
<input type="checkbox"/>	FITB	Fifth Third Bancorp	0.10%	TFC	Truist Financial Corp	0.26%	0.37%
<input type="checkbox"/>	PRU	Prudential Financial Inc	0.05%	MET	MetLife Inc	0.10%	0.15%
<input type="checkbox"/>	BAC	Bank of America Corp	0.66%	JPM	JPMorgan Chase & Co	1.43%	2.09%
<input type="checkbox"/>	DFS	Discover Financial Services	0.06%	SYF	Synchrony Financial	0.07%	0.13%
<input type="checkbox"/>	EQR	Equity Residential	0.07%	AVB	Avalonbay Communities Inc	0.07%	0.14%
<input type="checkbox"/>	COF	Capital One Financial Corp	0.19%	AXP	American Express Co	0.40%	0.59%
<input type="checkbox"/>	NSC	Norfolk Southern Corp	0.08%	CSX	CSX Corp	0.09%	0.18%
<input type="checkbox"/>	V	Visa Inc	1.05%	MA	Mastercard Inc	1.14%	2.19%
<input type="checkbox"/>	SIVB	SVB Financial Group	0.12%	PNC	PNC Financial Services Group Inc	0.15%	0.27%
<input type="checkbox"/>	LRCX	Lam Research Corp	0.21%	AMAT	Applied Materials Inc	0.31%	0.52%

<< < > >> Page 1 of 6 | Go to page: 1

Show 10 ▾

Download

# Rebalancing Rules

*Set rebalancing rules and triggers to build out rebalancing actions*

Create
Customize Factors
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Optimize Taxes
<b>Rebalancing Rules</b>
Save & Publish
Invest
Monitor
Harvest Tax Losses

### Rebalance Triggers

Auto Tax Loss Harvest  Custom Rebalancer  No Rebalance Rules

Strategy Preference: ⓘ

Minimize Tracking Error  Maximize Tax Loss Harvesting  Custom Criteria

Max Capital to Harvest per period: ⓘ  %

Preserve securities with allocation greater than: ⓘ  %

---

Minimum Required Loss To Harvest: ⓘ

Maximum Realized Capital Gains (CY): ⓘ

---

Auto rebalance ⓘ  Alert before rebalance ⓘ

### Rebalance Triggers

Auto Tax Loss Harvest  Custom Rebalancer  No Rebalance Rules

Enable rebalancing triggers based on specific criteria, and choose whether to alert or automatically rebalance when criteria is met.

Sector deviation ⓘ

Tax loss ⓘ

Time frequency ⓘ

On  of  week

month of the quarter

Next Rebalance Date :08-18-2022

Min days of deviations: ⓘ

Target weights preference ⓘ

Min weeks between rebalancing ⓘ

---

Auto rebalance ⓘ  Alert before rebalance ⓘ

# Save & Publish

*Save any customized index and publish it across the organization*

Create
Customize Factors
Customize ESG
Backtest Metrics
Optimize Allocations
Optimize Taxes
Rebalancing Rules
<b>Save &amp; Publish</b>
Invest
Monitor
Harvest Tax Losses

### Save Customized Index ×

Name\*:

Ticker\*:

Index  ETF  Theme

Save ▾

- Publish
- Publish Globally
- Unpublish
- Delete

# Invest

*Invest a saved, published or standard index for any customer*

Create
Customize Factors
Customize ESG
Backtest Metrics
Optimize Allocations
Optimize Taxes
Rebalancing Rules
Save & Publish
<b>Invest</b>
Monitor
Harvest Tax Losses

### Invest Portfolio

Personal

Index Weights

Total Positions: 29    Min Allocation: \$162.84    Max Allocation: \$2,180.04

Ticker	Name	Sector	Index Wt	Smart Wt	Mcap Wt	Allocation
<input type="text" value="Search"/>	<input type="text" value="Search"/>	<input type="text" value="Search"/>				
AAPL	Apple Inc	Information Technology	7.27%	22.61%	17.50%	\$2,180.04
ABBV	Abbvie Inc	Health Care	0.74%	0.76%	1.77%	\$221.34
ACN	Accenture PLC	Information Technology	0.56%	1.39%	1.39%	\$169.08
AMZN	Amazon.com Inc	Consumer Discretionary	3.78%	11.93%	9.23%	\$1,134.78
AVGO	Broadcom Inc	Information Technology	0.68%	1.55%	1.54%	\$204.75
BAC	Bank of America Corp	Financials	0.90%	0.87%	2.03%	\$269.55
COST	Costco Wholesale Corp	Consumer Staples	0.65%	1.12%	1.57%	\$194.34
CSCO	Cisco Systems Inc	Information Technology	0.66%	0.61%	1.42%	\$199.32
CVX	Chevron Corp	Energy	0.78%	0.85%	1.97%	\$233.79
DIS	Walt Disney Co	Communication Services	0.76%	1.54%	1.53%	\$228.66

<< < > >> Page 1 of 3 | Go to page: 1    Show 10

# Monitor

*Single view to monitor the performance of all invested indexes for any customer*

Create
Customize Factors
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Rebalancing Rules
Save & Publish
Invest
<b>Monitor</b>
Harvest Tax Losses

Select Investor Account

Aaron Buchanan | v

### Account Info



**Aaron Buchanan**

**Account ID:** KXwF5xU  
**Address:** 478 Autumn Pine Suite  
803 Potterport, TX 87482  
**Phone:** (986)591-3990  
**Email:** bowersjohn@example.org

<b>Long Market Value:</b>	\$79,800.59
<b>Cash:</b>	\$3,579.24
<b>Total Equity:</b>	\$83,379.83

### Invested Portfolios

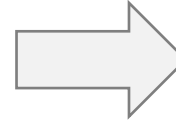
Index Name	Cost Basis	Market Value	Gain/Loss
Battery Vehicles small	\$10,000	\$10,204	2.04%
Artificial Intelligence	\$10,000	\$10,053	0.53%
SP500 all	\$39,941	\$40,320	0.95%
Big market	\$10,000	\$10,490	4.91%
SP 500 3	\$8,566	\$8,733	1.94%

# Harvest Tax Losses

*Harvest tax losses from identified opportunities*

## Pre-Investment

Identify highly similar securities to consolidate and create future pool for tax loss harvesting



## Post-Investment

Set harvesting rules and harvest tax losses identified for any invested index

Create
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Monitor
<b>Harvest Tax Losses</b>

You have **\$2,017** in tax harvestable losses.

Invested Capital <b>\$79,882</b>	Current Capital <b>\$111,034</b>	Positions <b>487</b>
Gains <b>\$33,190</b> ▲ 41.55%	Losses <b>(\$2,017)</b> ▼ (2.52%)	Net PnL <b>\$31,173</b> ▲ 39.02%

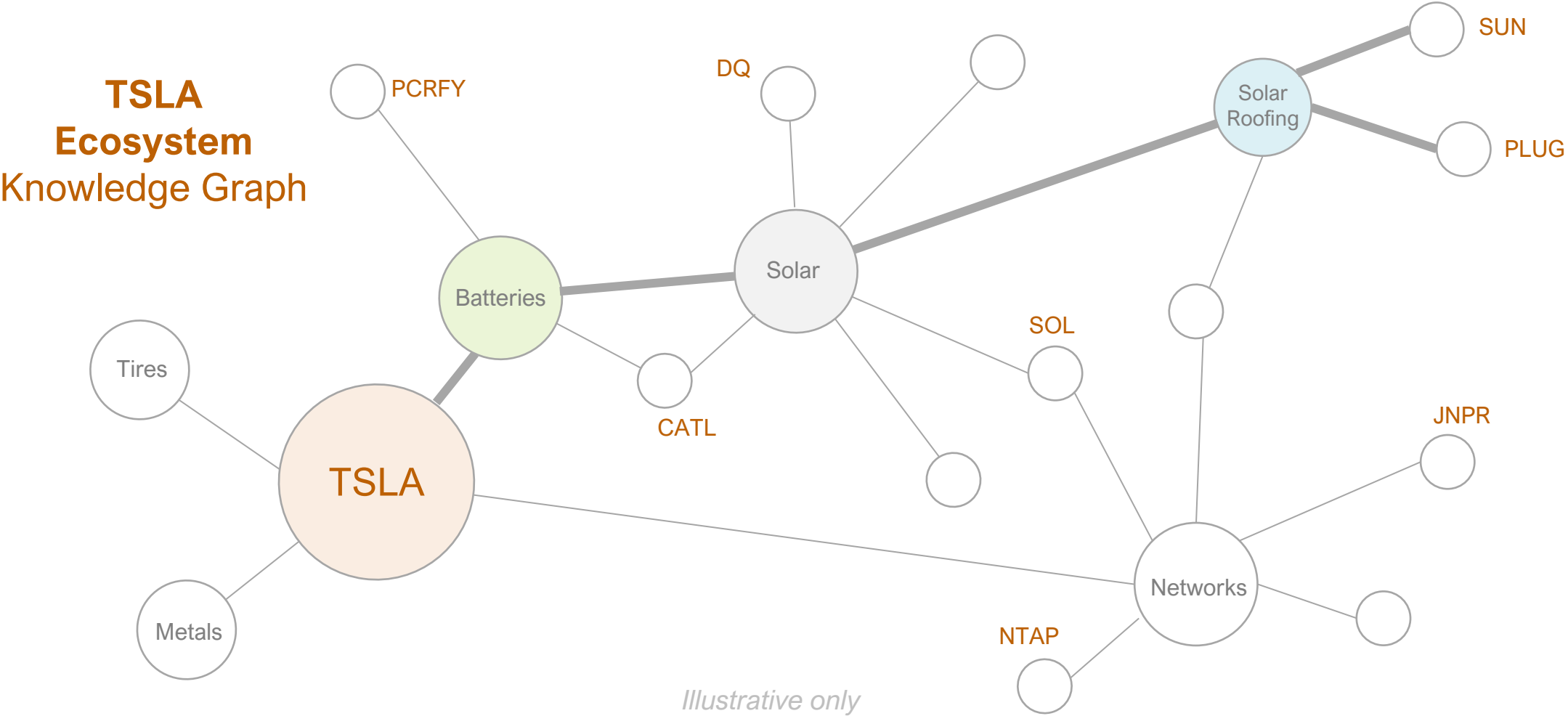
Replace from:  Replacement Options:   Revert in 31 Days

Harvesting **\$0** out of **\$2,017** (0.00%)

Ticker	Name	Sector	Mcap Wt(%)	Smart Wt(%)	Initial Allocation	Current Value	Change%	PnL(\$)	Substitute
<input type="checkbox"/> FB	Meta Platforms Inc	Communication Services	1.40%	1.04%	\$1,128.56	\$796.84	(29.39%)	(\$331.72)	GOOGL   v
<input type="checkbox"/> AMZN	Amazon.com Inc	Consumer Discretionary	4.06%	5.41%	\$3,026.08	\$2,712.28	(10.37%)	(\$313.80)	BABA   v
<input type="checkbox"/> NFLX	Netflix Inc	Communication Services	0.44%	0.59%	\$391.04	\$149.84	(61.68%)	(\$241.20)	LSXMA   v
<input type="checkbox"/> PYPL	PayPal Holdings Inc	Information Technology	0.37%	0.49%	\$297.84	\$126.32	(57.59%)	(\$171.52)	V   v

# Personalized Indexing with AI

*Natural language search to generate indexes for any target ecosystem*



# Comprehensive Personalized Investing Platform

*Personalization solution built on open cloud-based AI platform*

## Data & Backoffice Connectivity



Advanced data integration across fundamental, technical, macro, web, and other data



Front and back-office connectivity across multiple custodians and exchanges

## Scalability & Performance

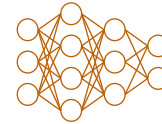


High performance, high scalability API services-based architecture



Highly secure, multi-tenant edge and cloud computing platform

## AI-enhanced Feature Sets



AI platform for curation, allocation, tax optimization and rebalancing



End-to-end lifecycle support for personalized indexing

## User Experience



Usability focused web applications to support full RIA workflow



Mobile applications for targeted use cases (*under development*)

# Automation-driven DevOps

*Deep focus on automation to improve efficiency and pace of iteration*

## Containerized Development



Containerized development, testing, and machine learning environments

*Fast, collaborative, non-disruptive development and release cycles*

## Automated Testing



Pytest data pipeline testing, Robot framework + Selenium, Gatling, Postman API auto tests

*Continuous data integration metrics, use case-based testing and reporting*

## Continuous Deployment



Auto deployment from Git with Dev, Staging, Testing, Production environments

*Streamlined release cycles, high iteration speed and fast feedback loop*

## API-first Elastic Infrastructure



Designed for scalability with Elastic cloud, Lambdas and adaptable Microservices

*Multi-product development and open integration across data, front and back-office*