Strategy System Blueprint

KaxaNuk

Sharing knowledge

Template

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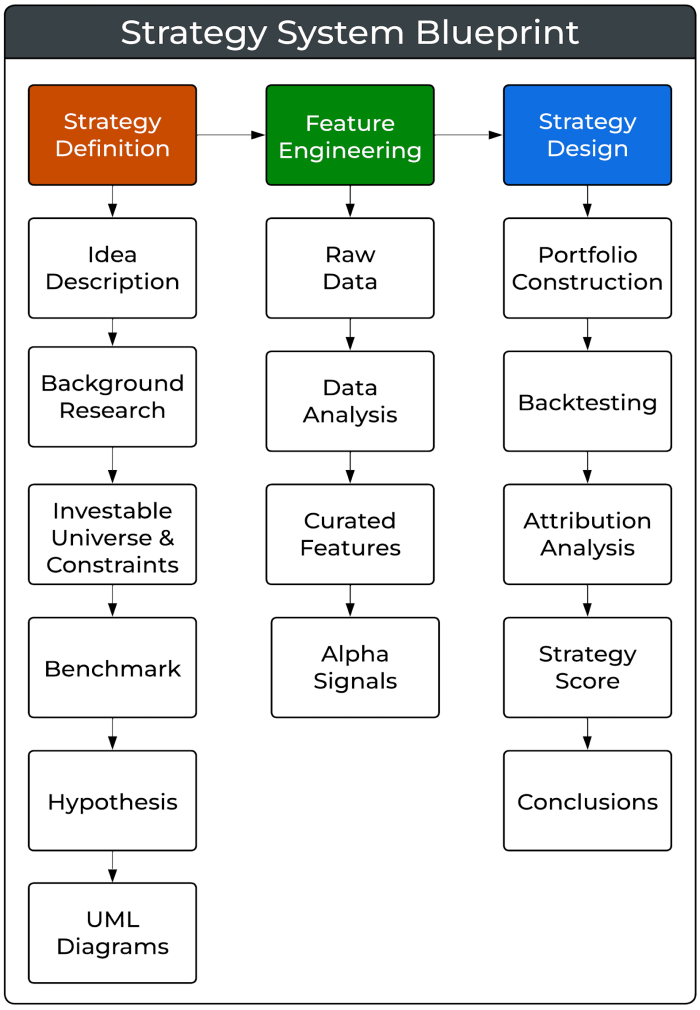
The Process Flow:

Strategy Definition: Moving beyond "intuition" to a formal hypothesis.

Signal Assembly: Transforming raw data into predictive signals.

Model Design: Implementing portfolio construction selection, timing, and sizing.



Strategy Blueprint

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Strategy Definition

Idea Description

Explain the idea of the strategy and why you think it can be successful.

Be as specific as possible about the asset class you want to explore and the underlying money making idea.

Background Research

Check if similar ideas have been tested and validated.

Paper Title

Date: dd-mm-yyyy

Link: https://www.kaxanuk.mx/

- Bullets that discuss the strategies ideas.

Investable Universe and Constraints

- US Country ETFs, Global Stocks,
- The tickers must have more than three months of trading history
- Market capitalization thresholds
- Liquidity requirements like minimum daily volume traded
- Asset class restrictions
- Geographic limitations
- Long only
- Long / short
- Cash only
- Leverage
- Margin
- Sector
- Factor exposure limits
- Benchmark tracking error

Benchmark

- Indices
- ACWI ETF
- Equal Weight Country ETFs
- SPDR S&P 500 ETF Trust
    - FMP Ticker - SPY
    - ISIN - US78462F1030
    - Ipo - 1/29/1993
    - Link - https://www.ssga.com/us/en/intermediary/etfs/spdr-sp-500-etf-trust-spy

Hypothesis

Market Inefficiency

- Price momentum exists due to investor underreaction to news
- Earnings announcement drift persists due to slow information diffusion

Risk Premium

- Companies with higher volatility should offer higher returns
- Illiquid stocks command a premium for holding risk

Fundamental

- Companies that are undervalued or overvalued

Behavioral

- Investors systematically overreact to negative news
- Retail investors chase past performance creating predictable patterns

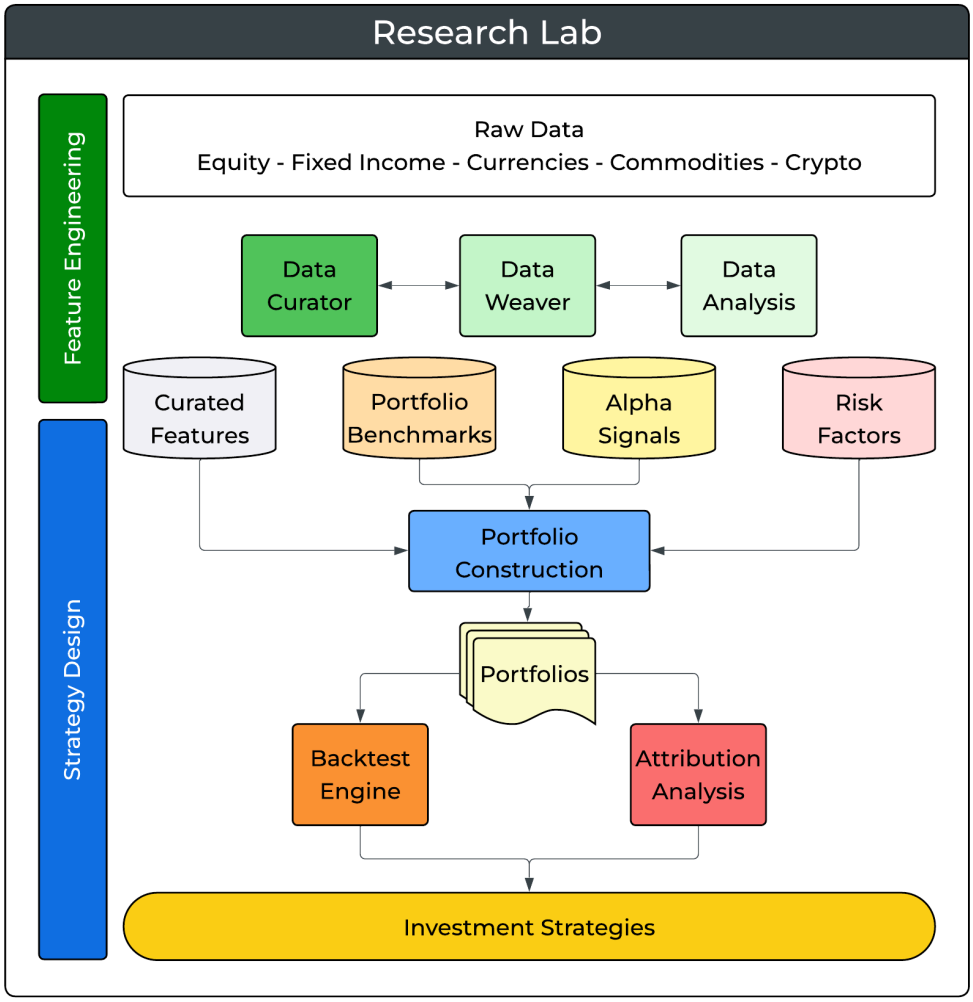
Structural

- Quarter-end rebalancing creates temporary price pressure
- Options expiration affects underlying stock volatility

Null Hypothesis

- Beat the benchmark

Unified Modeling Language Diagrams



Research Lab

Feature Engineering

Raw Data

The variables that we want to analyze:

- Market Data Open, High, Low, Close
- Fundamental Income, Balance Sheet, Cash Flows
- Analyst Estimates
- Earnings Transcripts
- Economic
- News

Data Analysis

Time Series and Cross Sectional Analysis

- Price trends and patterns
- Volatility clustering
- Seasonality and cyclical patterns
- Return distributions

Key Financial Metrics

- Returns (daily, monthly, annual)
- Risk measures (standard deviation, VaR, beta)
- Trading volumes
- Price-to-earnings ratios
- Market capitalization

Common Visualizations

- Candlestick charts
- Moving averages

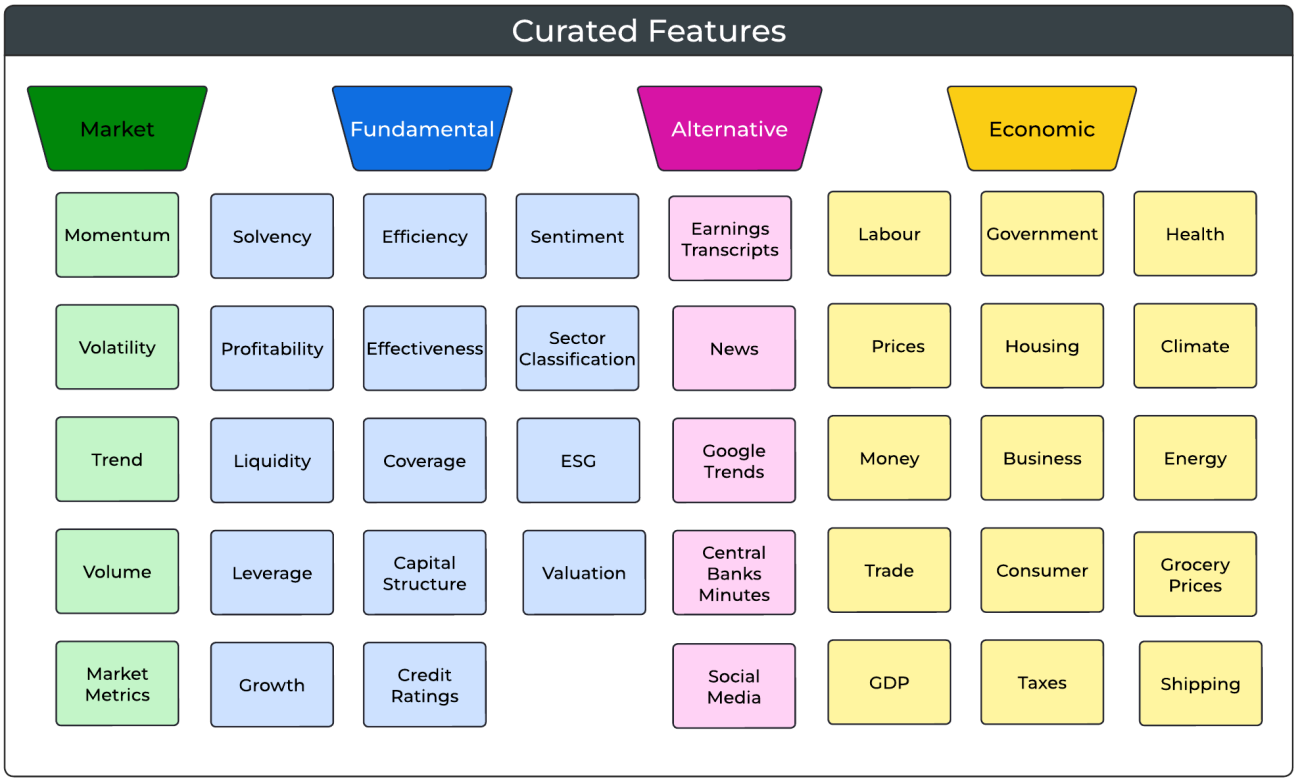
- Correlation heatmaps
- Box plots for return distributions
- Volume analysis

Curated Features

Describe the features you will use:

- Momentum
- Volatility
- Value
- Quality
- Growth
- Sentiment
- Macro Signals

To avoid overfitting, try to keep these features constant until the end of the research project.



Features Overview

Alpha Signals

Binary Filter

- Regime change
- Risk-On, Risk-Off
- Specific filters

Ranking Approaches

- Linear combinations
- Non-linear transformations
- Machine learning models
- Dynamic weighting schemes
- Regime-dependent weights
- Percentile rankings
- Z-scores
- Quantile assignments
- Cross-sectional ordering
- Multi-factor ranks

Probabilistic Frameworks

- Return distribution estimates
- Statistical confidence measures
- Bayesian updating methods
- Probability of outperformance
- Risk-adjusted forecasts

Expected Return Models

- Factor return forecasts
- Risk premium adjustments
- Transaction cost estimates
- Decay rate modeling
- Capacity considerations

Strategy Design

Portfolio Construction

Taking into account the model logic, we can construct historical portfolios under different approaches and constraints:

- Stocks portfolios target 35 holdings
- Revised daily and dynamically rebalanced depending on the eligible universe (rebalancing triggered by regime changes for individual stocks and portfolio-level constraints).
- Weighting by Traded Value: Stocks in a bull regime are weighted proportionally to their traded value, subject to caps.
- Maximum Weights Limits: Maximum 20% in any single name.
- Long-only.

Backtesting

Constraints

- Benchmark
- Broker Fees (Cents or Basis)
- Slippage
- Tax Implications
- Fill
- Buying Power
- Settlement
- Short availability
- Margin Interest Rate
- Cash Investment

Performance Metrics

- Returns and risk-adjusted returns
- Maximum drawdown
- Volatility measures

- Trading frequency and turnover
- Position holding periods

Implementation Feasibility

- Capacity analysis
- Transaction cost impact
- Operational requirements
- Capital needs
- Market accessibility

Strategy Robustness

- Out-of-sample performance
- Parameter sensitivity
- Market regime analysis
- Seasonality effects
- Diversification benefits

Strategy Evolution

- Adaptation to market changes
- Parameter optimization
- Overfitting assessment
- Improvement opportunities
- Lessons learned

Always Remember

Keep track of your backtesting results to avoid overfitting and data mining. Complete the attribution analysis before making any changes to the combination logic or portfolio construction and risk considerations.

Attribution Analysis

Benchmark Comparison

- Absolute return differences
- Tracking error analysis
- Information ratio
- Active share metrics
- Risk-adjusted performance

Sector and Industry Analysis

- Active sector weights vs benchmark
- Sector contribution to returns
- Sector timing decisions
- Industry rotation effects
- Sector correlation impacts

Security Selection

- Stock-specific returns
- Position sizing impact
- Entry/exit timing
- Selection skill within sectors
- High conviction positions

Factor Decomposition

- Style factor exposures
- Risk factor contributions
- Alpha factor effectiveness
- Factor timing
- Factor interaction effects

Position-Level Controls

- Stop-loss triggers and execution
- Position size limits
- Sector / industry caps
- Concentration limits
- Entry / exit rules

Portfolio-Level Management

- Overall leverage limits
- Net exposure targets
- Beta neutrality requirements
- Factor exposure constraints
- Correlation controls

Drawdown Management

- Maximum drawdown limits
- Time under water rules
- Recovery targets
- Capital preservation rules
- De-risking triggers

Stress Testing

- Historical scenario analysis
- Market regime testing
- Volatility shock scenarios
- Liquidity stress events
- Correlation breakdown tests

Strategy Score

Use the Strategy Scoring Template to find areas for improvement.

Conclusions

Hypothesis Validation.

Understand statistical implications and assess strategy consistency.

Is This An Implementable Strategy?

Provide specific bullets to understand if the strategy should be implemented for paper trading.

- Factor decay is real - signals weaken over time
- Market impact can kill returns
- Capacity constraints matter
- Technology and infrastructure is critical
- Risk management is as important as alpha

Next Steps

Production Implementation

- Build robust production infrastructure
- Set up real-time data pipelines
- Implement automated monitoring systems
- Create failover procedures
- Develop live paper trading environment

Strategy Enhancement

- Refine risk management framework
- Explore additional alpha factors
- Optimize execution algorithms
- Consider strategy combinations/ensembles
- Research regime adaptation methods

Performance Monitoring

- Define key performance indicators (KPIs)
- Establish monitoring dashboards
- Create alert systems
- Set up regular review processes
- Track factor exposures

Business Considerations

- Calculate realistic capacity limits
- Develop scaling plans
- Establish capital raising strategy
- Consider operational requirements
- Plan for team expansion needs

Findings, Concerns and Decisions

Topic Title

2024-07-28