

# Stargaze Capital — Algorithm Portfolio Strategy

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**Classification:** Internal — Stargaze Capital

**Platform:** QuantConnect (LEAN) → Interactive Brokers

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## 1. Portfolio Philosophy

A single algorithm is a bet on one market regime. Stargaze Capital builds an orchestra of algorithms — each designed to profit from a different source of alpha, on a different asset class, with structurally uncorrelated return streams. When one strategy is flat or bleeding, another carries the portfolio.

The mathematical foundation is straightforward:

$$\text{Portfolio Sharpe} \approx \text{Average Strategy Sharpe} \times \sqrt{N / (1 + (N-1) \times \rho)}$$

Where N is the number of strategies and ρ is average pairwise correlation. With 4 strategies averaging Sharpe 1.0 and correlation 0.15:

$$\text{Portfolio Sharpe} \approx 1.0 \times \sqrt{4 / (1 + 3 \times 0.15)} = 1.0 \times \sqrt{4/1.45} \approx 1.66$$

The “free lunch” of diversification applied to algorithm portfolios. The critical ingredient is low correlation — and low correlation comes from diversifying across **strategy types**, not just instruments.

## Portfolio Design Targets

Metric	Target
Combined Portfolio Sharpe	1.5 – 2.0
Portfolio CAGR	25%+
Maximum Drawdown	< 25%
Positive Months	≥ 8 of 12
Strategy Pairwise Correlation	< 0.20 average

Rebalance Frequency	Monthly
Manual Intervention	Monthly review, quarterly rebalance

## 2. The Four Algorithms

#	Name	Strategy Type	Asset Class	Instrument	Allocation	Expected Sharpe	Portfolio Role
1	<b>Megatron</b>	Breakout	Gold	CFD (XAUUSD)	30%	1.2 – 1.8	Core alpha generator
2	<b>Bumblebee</b>	Momentum	US Equities	Stocks / CFDs	25%	0.9 – 1.3	Core alpha generator
3	<b>Optimus</b>	Premium Selling	Index Options	SPY/QQQ/IWM options	25%	0.8 – 1.2	Diversifier / income
4	<b>Bluestreak</b>	Carry Momentum	Forex	G10 major pairs	20%	0.8 – 1.1	Diversifier

### Correlation Matrix (Expected)

	Megatron	Bumblebee	Optimus	Bluestreak
Megatron	1.00	Low (0.10)	Low negative (-0.15)	Near zero (0.05)
Bumblebee	—	1.00	Low negative (-0.10)	Low (0.15)
Optimus	—	—	1.00	Near zero (0.05)
Bluestreak	—	—	—	1.00

### Why this combination works:

- Megatron (breakout) profits from volatility expansion. Optimus (premium selling) profits from volatility compression. Structurally inverse.
- Gold (Megatron) often moves inversely to equities (Bumblebee) during risk-off events.
- FX (Bluestreak) is driven by central bank policy divergence — fundamentally independent of equity momentum or gold breakouts.

- Optimus earns steady theta income during calm periods when Megatron and Bumblebee may be flat.
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### 3. MEGATRON — Gold CFD Squeeze Breakout

#### Source of Alpha

Gold exhibits the strongest trending behaviour of any major asset, driven by macro catalysts: real interest rates, central bank purchases, safe-haven flows, and geopolitical risk. Volatility in gold is mean-reverting — periods of compression are reliably followed by explosive expansion moves. The Bollinger Band squeeze breakout captures this structural tendency.

#### Core Strategy

Detect genuine Bollinger Band compression on gold. Wait for price to break above the upper band while the broader trend is intact. Enter long with conviction-scaled sizing. Trail stops aggressively using ATR. Accept the low win rate because the winners run 3–5× the losers.

**Long-only primary bias.** Short breakdowns on gold are explicitly dangerous — the safe-haven bid creates violent reversals. An optional short module may activate only during confirmed bear regimes (price below 200-day EMA + rising real yields), with tighter stops and smaller size.

#### Entry System — Multi-Gate Architecture

All gates must pass before entry:

Gate	Condition	Purpose
1. Trend	Price > 50-day EMA	Confirm uptrend
2. Squeeze	Bandwidth in bottom 20th percentile of 100-bar lookback	Detect genuine compression
3. Breakout	Price > Upper Bollinger Band (20, 2.0)	Confirm breakout
4. Momentum	RSI(14) < 80	Avoid chasing exhaustion
5. Trend Strength	ADX(14) > 15	Confirm trending vs ranging
6. Capacity	Active positions < max (2)	Risk management

**Critical calibration note:** The squeeze filter must produce genuine compression signals — 2 to 4 per month maximum. If the filter fires daily, it's reflecting general low volatility, not a squeeze.

Use percentile-based detection (bottom 20th percentile of recent bandwidth), not fixed thresholds. A fixed threshold of “bandwidth < avg × 1.1” caused 212 trades in 24 months during 2013–2014 with a 32.5% win rate — a catastrophic bleed.

## Exit System

Exit Type	Rule
Initial Stop	$2.0 \times \text{ATR}(14)$ below entry
Trailing Stop	Ratchet to $1.5 \times \text{ATR}$ below highest close once trade moves $1 \times \text{ATR}$ in profit
Time Stop	Close if trade hasn't moved $1 \times \text{ATR}$ in profit within 10 bars
Profit Target	None — let winners run. The trailing stop exits
Circuit Breaker	3 consecutive losses → pause 48 hours

## Position Sizing

$$\text{Position Size} = (\text{Equity} \times \text{Risk}\%) / \text{Stop Distance}$$

Where Risk% = 2% base, scaled by conviction score (0.5x to 1.5x). Drawdown multiplier reduces sizing during drawdown periods: if current drawdown > 10%, reduce risk to 1.5%. If > 20%, reduce to 1%.

## Regime Detection

Regime	Indicators	Behaviour
Trending Bull	Price > 50 EMA, ADX > 20, slope positive	Full sizing, standard gates
Trending Bear	Price < 50 EMA, ADX > 20, slope negative	Short module only (if enabled), half sizing
Ranging	ADX < 15, bandwidth oscillating	PAUSE — no new entries
Crisis/Spike	VIX > 30, gold gap > 2%	Tighten stops on existing, no new entries

## Target Performance Profile

Metric	Target

CAGR	30 – 50%
Sharpe Ratio	1.2 – 1.8
Sortino Ratio	1.5 – 2.5
Win Rate	35 – 40%
Profit Factor	2.0+
Max Drawdown	25 – 35%
Avg Trade Duration	3 – 15 days
Trades per Month	4 – 8

## Key Risks

- **CFD leverage amplifies losses.** Margin management is non-negotiable. Maintain 30% margin buffer minimum.
  - **Low-volatility regimes** (2013–2014 type) produce extended drawdowns. The regime detector must keep the algo flat.
  - **Gap risk** on overnight/weekend holds. Gold trades nearly 24 hours but gaps can occur around macro events.
  - **Broker dependency.** CFD pricing, spreads, and overnight financing vary by provider.
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## 4. BUMBLEBEE — US Equity Tiered Momentum

### Source of Alpha

Equity momentum is one of the most well-documented factors in finance. Stocks in Stage 2 uptrends exhibiting positive earnings momentum and Volatility Contraction Patterns (VCPs) tend to continue outperforming. The tiered approach dynamically allocates capital across risk tiers based on the prevailing market regime — aggressive during risk-on, defensive during risk-off.

### Core Strategy

Maintain an algorithmically screened universe of US equities divided into three risk tiers. Use cross-sectional momentum ranking + absolute momentum filters to select holdings within each tier. A regime detector shifts capital allocation across tiers. Strict position-level stop losses protect against single-stock blowups.

### Universe Construction

Universes are **algorithmically screened**, not hand-picked. Rebalance monthly.

Tier	Criteria	Examples (illustrative, not static)	Character
A-Team	Top decile 6-month momentum, Beta > 1.5, Market Cap > \$5B, Avg Volume > 1M shares/day	NVDA, SMCI, COIN, MARA, high-growth AI/energy	Aggressive growth
B-Team	Middle quintile momentum, Beta 0.8–1.5, Market Cap > \$50B	AAPL, MSFT, AMZN, GOOGL	Core holdings
C-Team	Bottom quintile by beta, positive earnings momentum, Market Cap > \$20B, Dividend yield > 1.5%	JNJ, PG, KO, UNH	Defensive stability

## Regime-Based Allocation

Regime	Indicators	A-Team	B-Team	C-Team
Risk-On	VIX < 18, >70% stocks above 200d MA, yield curve normal	50%	35%	15%
Neutral	VIX 18–25, 50–70% stocks above 200d MA	25%	45%	30%
Risk-Off	VIX > 25, <50% stocks above 200d MA, or yield curve inverted	0%	20%	50% (+ 30% cash)
Crisis	VIX > 35, credit spreads widening sharply	0%	0%	30% (+ 70% cash)

## Entry System

For each stock in the eligible universe:

Gate	Condition	Purpose
1. Trend	Price > 50-day EMA and 50 EMA > 200 EMA (Stage 2)	Confirm uptrend
2. Momentum	6-month return positive AND in top half of tier	Relative strength
3. VCP / Consolidation	Tightening price range over 3+ weeks (optional advanced filter)	Entry timing
4. Volume	20-day avg volume > 1M shares	Liquidity

5. Earnings	No earnings within 5 trading days	Avoid binary events
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## Exit System

Exit Type	Rule
Trailing Stop	$2.5 \times \text{ATR}(14)$ below highest close
Hard Stop	8% below entry (never moved)
Tier Rotation	Stock drops from A-Team screening → sell within 5 days
Regime Shift	Risk-Off triggers → liquidate A-Team positions within 2 days
Time Stop	If position flat (< 2% gain) after 30 days → review / exit

## Position Sizing

Max 15 positions across all tiers. Per-position risk: 1.5% of portfolio equity. Maximum single-position size: 8% of equity. Tier allocation determines capital budget per tier.

## UK Investor Considerations

US ETFs (SPY, QQQ) are unavailable to UK investors via Interactive Brokers due to KID/PRIIPs regulations. For Bumblebee, this is less of an issue since the strategy trades individual US stocks, which remain available. However, if index hedging is required, use futures (ES, MES) or CFD equivalents.

## Target Performance Profile

Metric	Target
CAGR	20 – 30%
Sharpe Ratio	0.9 – 1.3
Sortino Ratio	1.2 – 1.8
Win Rate	45 – 55%
Profit Factor	1.5 – 2.0
Max Drawdown	20 – 30%
Avg Holding Period	2 – 8 weeks

## Key Risks

- **Correlation within equity markets.** During genuine bear markets, all tiers will struggle — even defensives drop. The regime detector shifting to cash is the primary protection.
- **Single-stock risk.** Individual stocks can lose 50–80% in a quarter. Stop losses are non-negotiable.
- **Screening bias.** The algorithm must screen purely mechanically. Any manual override introduces discretionary bias.
- **Capacity constraints.** If portfolio grows significantly, A-Team names (smaller, higher-beta) may have liquidity issues.

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## 5. OPTIMUS — Systematic Options Premium Selling

### Source of Alpha

The volatility risk premium: implied volatility consistently exceeds realised volatility. Market participants systematically overpay for portfolio insurance. By selling that insurance through defined-risk credit spreads, Optimus harvests the premium. Time decay (theta) provides a structural edge that is fundamentally distinct from directional trading.

This strategy is **structurally uncorrelated** with both Megatron and Bumblebee. When volatility expands (Megatron profits from breakouts), Optimus may suffer. When volatility compresses (Optimus earns steady theta), Megatron is flat. This is the exact complementary relationship the portfolio needs.

### Core Strategy

Sell defined-risk credit spreads (put spreads and call spreads, combined as iron condors when appropriate) on highly liquid index ETFs. Enter when implied volatility is elevated relative to its recent range. Manage mechanically with predetermined profit targets and loss limits. Never hold to expiration.

### Strategy Layers

#### Layer 1: Index Credit Spreads (Primary — 60% of Optimus capital)

The bread-and-butter income engine. Regular, systematic premium collection on SPY, QQQ, and IWM.

Parameter	Rule
Underlyings	SPY, QQQ, IWM
Entry Trigger	IV Rank > 50% (52-week percentile of implied volatility)
Structure	Put credit spreads (bullish bias) or iron condors (neutral)
DTE at Entry	30 – 45 days
Strike Selection	Short strike at 0.16 delta (~84% probability OTM)
Spread Width	\$3–\$5 on SPY, scaled proportionally for others
Profit Target	Close at 50% of max profit
Time Stop	Close at 21 DTE if not at profit target (avoid gamma risk)
Loss Limit	Close at 200% of premium received
Max Concurrent	3 positions per underlying, 8 total

### Layer 2: VIX Mean Reversion Overlay (Opportunistic — 25% of Optimus capital)

When VIX spikes, the premium available is outsized. This layer scales aggressively into elevated volatility, expressing the view that volatility will normalise.

Parameter	Rule
Entry Trigger	VIX > 25 AND VIX has risen > 30% in 5 days
Structure	SPY put credit spreads (wide, OTM)
Scale-in	25% at VIX 25, 25% at VIX 30, 25% at VIX 35, 25% at VIX 40+
DTE	45 – 60 days (longer to allow normalisation)
Profit Target	Close at 50% of max profit
Hard Stop	Close at 300% of premium received (wider than Layer 1 due to elevated vol)

**Risk warning:** A VIX spike from 25→35 feels like the opportunity. A spike from 35→80 (March 2020) feels like the end of the world. The scale-in approach and defined risk are lifelines.

### Layer 3: Earnings Premium Selling (Optional — 15% of Optimus capital)

Implied volatility before earnings systematically overstates the actual move ~75–80% of the time.

Parameter	Rule
Entry Trigger	IV Rank > 70% AND earnings within 1–2 days
Universe	Liquid large-caps with tight bid/ask spreads (AAPL, MSFT, AMZN, GOOGL, META)
Structure	Iron condors or strangles
Exit	Close immediately after the earnings move (next open)
Max per Cycle	5 positions per earnings season

**Higher risk. Requires large sample sizes to smooth the 20–25% of trades where the actual move exceeds implied.**

## Position Sizing

Size by **maximum loss**, not premium received. A £200 credit on a £1,000-wide spread risks £800 — size to the £800. Maximum loss per trade: 2–3% of total portfolio equity. Total Optimus exposure (sum of max losses on all open positions): never exceed 15% of total portfolio.

## Target Performance Profile

Metric	Target
CAGR	12 – 18%
Sharpe Ratio	0.8 – 1.2
Sortino Ratio	1.0 – 1.5
Win Rate	75 – 85%
Profit Factor	1.8 – 2.5
Max Drawdown	15 – 25%
Avg Trade Duration	15 – 30 days
Monthly Income	Consistent (target 1–1.5% of allocated capital)

## Key Risks

- **Tail risk.** Premium selling makes steady money until it doesn't. A sudden crash can produce losses many times the typical profit. Defined-risk structures and strict sizing are non-negotiable.

- **QuantConnect options execution.** Slippage on spreads can be significant in less liquid strikes. Wide bid/ask spreads eat into edge. Stick to the most liquid underlyings and strikes.
  - **Correlation with market crashes.** When equities crash, put spreads lose money fast. This is offset at portfolio level by Megatron (gold rallies during crises) — but within Optimus itself, the drawdown will be sharp.
  - **Assignment risk.** ITM short options near expiration. The 21 DTE time stop and 200% loss limit should prevent this.
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## 6. BLUESTREAK — Forex Carry Momentum

### Source of Alpha

FX carry momentum exploits a persistent structural edge: currencies with higher interest rates tend to appreciate against currencies with lower rates, particularly when the trend confirms the carry direction. This is driven by institutional capital flows, central bank policy divergence cycles, and the slow-moving nature of macro fundamentals. Man AHL, Winton, and AQR have built multi-billion-pound businesses on this principle applied systematically.

FX is structurally uncorrelated with gold breakouts, equity momentum, and options premium. Different asset class, different drivers, different market microstructure (24-hour, deepest liquidity on earth).

### Core Strategy

Monitor G10 currency pairs for carry differentials and trend alignment. Go long the higher-yielding currency when the trend confirms; stay flat or reverse when it doesn't. Session-aware execution prioritises the London–New York overlap for best liquidity and directional conviction. News blackout periods prevent trading around major macro events.

### Strategy Design — Dual Momentum with Carry Filter

Bluestreak combines three independent signals:

Signal	Weight	Description
Carry	30%	Interest rate differential between pair currencies. Positive carry = long bias.
Time-Series Momentum	40%	Is this pair trending? 50-day EMA slope direction + price vs 50 EMA.
Cross-Sectional Momentum	30%	Rank all monitored pairs by 3-month return. Prefer top-ranked pairs.

A trade triggers when carry direction **agrees** with momentum direction. If carry says long EUR/USD but momentum says short, the algo stays flat on that pair. Agreement is the filter — it eliminates the most dangerous trades (technical breakouts that contradict the fundamental backdrop).

## Universe

Pair	Character	Carry Relevance
EUR/USD	Most liquid; driven by ECB vs Fed divergence	High during rate cycle divergence
GBP/USD	Volatile; BoE policy + Brexit structural factors	Moderate
USD/JPY	The classic carry pair; BoJ ultra-loose vs Fed	Very high — persistent carry edge
AUD/USD	Commodity-linked; RBA policy + China sensitivity	High — significant rate differentials
USD/CHF	Safe-haven dynamics; SNB intervention risk	Lower — defensive pair
EUR/GBP	Relative Europe play; tight spreads	Lower — mean-reversion tendency

**Start with 3–4 pairs** (EUR/USD, USD/JPY, GBP/USD, AUD/USD) and expand only after live validation.

## Entry System

Gate	Condition	Purpose
1. Carry	Interest rate differential > 0.5% annualised in trade direction	Fundamental tailwind
2. Trend	Price above/below 50-day EMA in carry direction	Trend confirmation
3. Momentum	3-month return positive in carry direction	Persistence check
4. Volatility	ATR(14) within 20th–80th percentile of 100-day range	Avoid dead calm and crisis spikes
5. Session	London or London–New York overlap (08:00–16:00 UTC)	Best liquidity
6. News	No major central bank decisions, NFP, or CPI within 4 hours	Avoid binary events

## Exit System

Exit Type	Rule
Trailing Stop	$2.0 \times \text{ATR}(14)$ in counter-trend direction
Carry Reversal	If rate differential reverses sign → close within 24 hours
Trend Break	Price crosses 50-day EMA against position → tighten stop to $1.0 \times \text{ATR}$
Time Stop	If position flat after 20 days → close
Correlation Breaker	If USD Index moves > 3% in a week → reduce all USD-paired positions by 50%

## Position Sizing

Risk per trade: 1.5% of portfolio equity. Maximum concurrent pairs: 4. Maximum exposure to single currency (across all pairs): 3% of portfolio equity. This prevents, for example, being simultaneously long USD via three different pairs.

## Regime Awareness

Regime	Indicators	Behaviour
<b>Policy Divergence</b>	Central banks moving in opposite directions, widening rate differentials	Full allocation — this is Bluestreak's sweet spot
<b>Policy Consensus</b>	Central banks aligned (all hiking or all cutting)	Reduce to 50% allocation — carry differentials narrow, pairs range-trade
<b>Risk-Off / Crisis</b>	VIX > 30, JPY strengthening sharply, carry unwind signals	Flatten all positions — carry trades are the first casualty in a crisis

## Target Performance Profile

Metric	Target
CAGR	12 – 20%
Sharpe Ratio	0.8 – 1.1
Sortino Ratio	1.0 – 1.4
Win Rate	40 – 50%
Profit Factor	1.5 – 2.0

Max Drawdown	15 – 20%
Avg Holding Period	1 – 4 weeks
Active Positions	2 – 4

## Key Risks

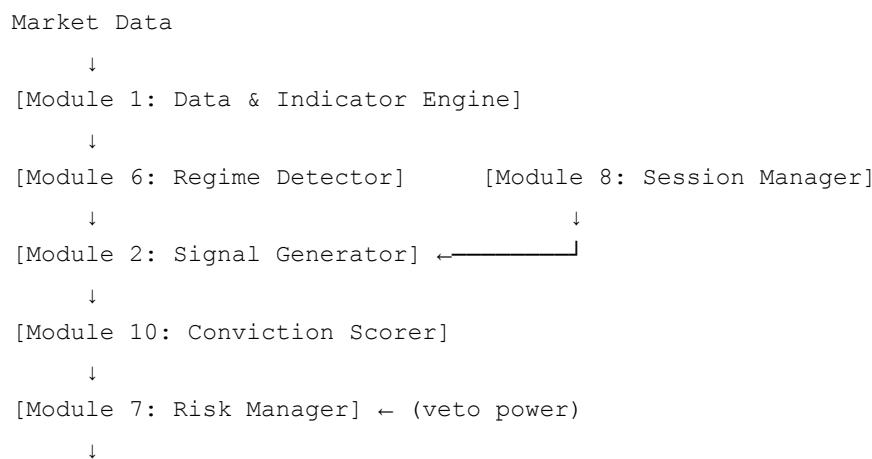
- **Carry unwind.** When risk appetite collapses, carry trades unwind violently and simultaneously. The JPY strengthens, AUD collapses, and all carry positions lose together. The crisis regime detection must flatten positions before the unwind accelerates.
  - **Central bank intervention.** SNB removing the EUR/CHF peg (Jan 2015) caused instant, massive losses for carry traders. Position sizing and stop discipline are lifelines, but gaps through stops are a real risk.
  - **Slippage during Asian sessions.** Spreads widen significantly. Session filters should restrict new entries to London and NY sessions.
  - **Macro context is everything.** A technical breakout that contradicts the rate differential has a poor success rate. The carry filter exists specifically to prevent this.
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## 7. Shared Architecture

All four algorithms share a common modular architecture. This ensures consistent behaviour, enables code reuse via a shared library, and allows improvements to propagate across all strategies.

### Module Architecture

[Module 12: Shared Library] — (imported by all modules)



```

[Module 3: Position Sizer]
↓
[Module 4: Execution Manager]
↓
[Module 5: Trade Tracker] → [Module 9: Notifications]
↓
[Module 11: Diagnostics & ML Layer]

```

## Module Responsibilities

Module	Responsibility	Key Principle
<b>1. Data &amp; Indicator Engine</b>	Ingest market data, compute indicators (BB, EMA, ATR, RSI, ADX), normalise	All indicators computed here — no calculations in signal logic
<b>2. Signal Generator</b>	Multi-gate entry/exit logic specific to each strategy	Deterministic: same inputs always produce same outputs
<b>3. Position Sizer</b>	Calculate quantity from equity, risk%, stop distance, conviction	Never bypassed. Every trade passes through sizing
<b>4. Execution Manager</b>	Submit and manage orders, handle rejections, track fills and slippage	Fault-tolerant. Rejections, partial fills, disconnections are normal
<b>5. Trade Tracker</b>	Record all trades, compute performance statistics	Complete audit trail. Every decision logged
<b>6. Regime Detector</b>	Classify current market regime from indicators	Strategy-specific implementation, shared interface
<b>7. Risk Manager</b>	Portfolio-level constraints, circuit breakers, drawdown limits	<b>Veto power</b> over all other modules
<b>8. Session Manager</b>	Time-aware behaviour, trading windows, news blackouts	Especially critical for Bluestreak (FX sessions) and Megatron (gold sessions)
<b>9. Notifications</b>	Alerts via Telegram/email for trades, circuit breakers, daily summaries	Never crashes the algorithm. Wrapped in exception handlers
<b>10. Conviction Scorer</b>	Multi-factor scoring to scale position size	Feeds position sizer with 0.5x–1.5x multiplier
<b>11. Diagnostics</b>	Performance analytics, regime attribution, drift detection	Post-trade analysis, not real-time decision-making

<b>12. Shared Library</b>	Common utilities: ATR floor, position sizing formula, time helpers	Used by all four algorithms. Single source of truth
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## QuantConnect Project Structure (per algorithm)

```
/Algorithm_Name/
├── main.py                                # Core algorithm, event handlers (<64KB)
├── signal_engine.py                         # Entry/exit logic, multi-gate system
├── risk_manager.py                          # Portfolio risk, circuit breakers, drawdown
├── indicators.py                            # Custom indicator wrappers, normalisation
├── regime_detector.py                      # Market regime classification
├── position_sizer.py                        # Sizing with conviction and drawdown scaling
├── execution_manager.py                    # Order management, rejection handling
├── trade_tracker.py                         # Trade logging, performance metrics
├── session_manager.py                      # Time/session awareness
├── notifications.py                         # Alert system
├── conviction_scorer.py                   # Multi-factor conviction
├── diagnostics.py                           # Analytics, ML layer
└── /shared/
    ├── utils.py                             # Shared library (symlinked or copied)
    ├── constants.py
    └── sizing.py
```

## Versioning Protocol

Each module carries its own version. The algorithm's top-level version captures the combination.

**Format:** vMAJOR.MINOR.PATCH

Example: Megatron v2.015 = main v2, signal engine v3, risk manager v1, etc.

This allows isolated testing: compare Megatron v2.015 (conviction scorer v3) against v2.014 (conviction scorer v2), holding all other modules constant. **One change at a time.**

## 8. Portfolio-Level Risk Framework

Beyond individual algorithm risk management, a portfolio-level framework monitors aggregate exposure.

### Portfolio Risk Rules

Rule	Trigger	Action
<b>Correlation breaker</b>	Rolling 30-day correlation between any two strategies > 0.6	Reduce total portfolio exposure by 25%

<b>Total leverage cap</b>	Sum of notional exposures across all strategies > 4x portfolio equity	Scale all positions proportionally to bring under 4x
<b>Aggregate drawdown</b>	Portfolio drawdown > 15% from peak	Reduce all strategy allocations by 25%. If > 20% → reduce by 50%. If > 25% → flatten all
<b>Single strategy failure</b>	Any strategy drawdown > its individual max DD target	Halt that strategy. Review. Do not redistribute capital to other strategies
<b>Monthly review</b>	First business day of each month	Compare live performance vs backtest expectations. Flag deviations > 2 standard deviations
<b>Quarterly rebalance</b>	First business day of each quarter	Rebalance allocations to target weights. Review strategy inclusion

## Capital Requirements

Level	Amount	Notes
Minimum Viable	£25,000	Megatron only, reduced sizing
Recommended	£50,000	Megatron + one additional
Full Portfolio	£100,000	All four strategies with proper sizing
Ideal	£200,000+	Full portfolio with margin buffers and scaling headroom

Undercapitalisation kills more traders than bad strategies. Each strategy needs enough capital to express positions at meaningful size while keeping per-trade risk at 1.5–2%.

## 9. Build Sequence

The algorithms should be built, tested, and deployed sequentially — not simultaneously. Each addition should demonstrably improve the portfolio's risk-adjusted return before the next is started.

Phase	Algorithm	Rationale
<b>Phase 1</b>	Megatron	Clearest edge, most production data, single instrument, simplest execution
<b>Phase</b>		Structurally uncorrelated with Megatron. Adding premium selling to a

<b>2</b>	Optimus	breakout strategy is the highest-impact diversification step
<b>Phase 3</b>	Bumblebee	Adds equity exposure. More complex (multi-stock universe, screening). Benefits from shared library maturity
<b>Phase 4</b>	Bluestreak	Adds FX. New asset class, new session dynamics. Deploy last as the final diversification layer

Each phase: backtest → paper trade for 2–4 weeks → deploy with 50% target sizing → scale to full sizing after 1 month live validation.

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## 10. Success Criteria

The portfolio has succeeded when:

- Combined Sharpe ratio exceeds 1.5 over a rolling 12-month window
- Maximum drawdown remains below 25%
- No single month loses more than 8%
- At least 3 of 4 strategies are in positive territory over any rolling 6-month period
- Monthly review takes less than 2 hours
- No manual intervention required between monthly reviews

The portfolio has **failed** when:

- Combined drawdown exceeds 30%
  - Any single strategy deviates from backtest expectations by > 3 standard deviations for 3 consecutive months
  - Pairwise correlation between strategies exceeds 0.5 on a sustained basis (3+ months)
  - The operator feels compelled to override algorithmic decisions manually
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*Document maintained by Stargaze Capital. Next review: upon completion of Megatron Phase 1 architecture document.*