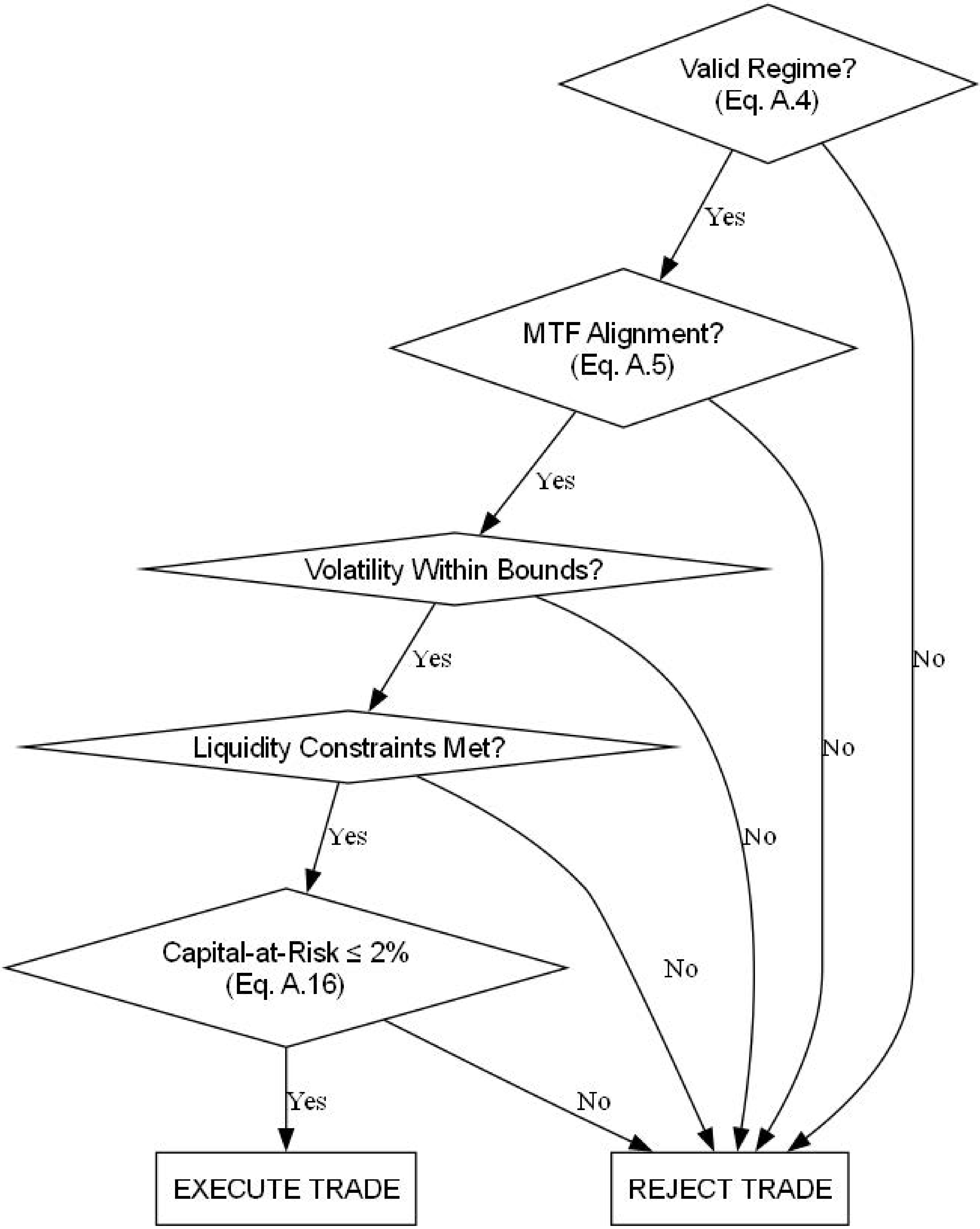
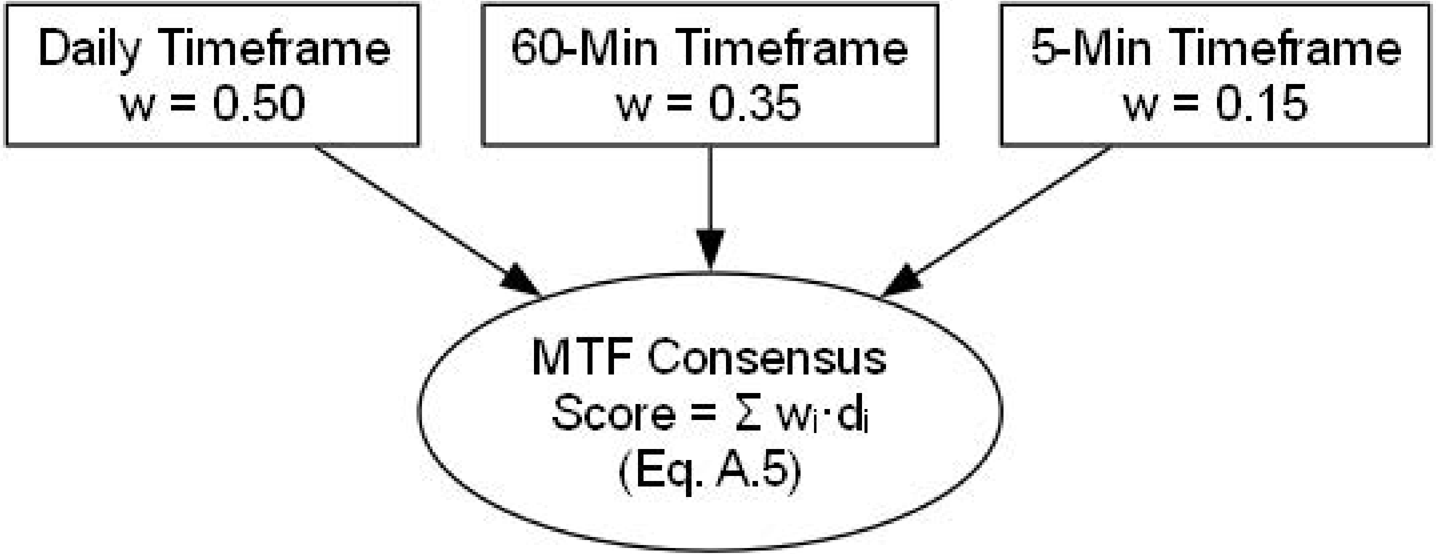
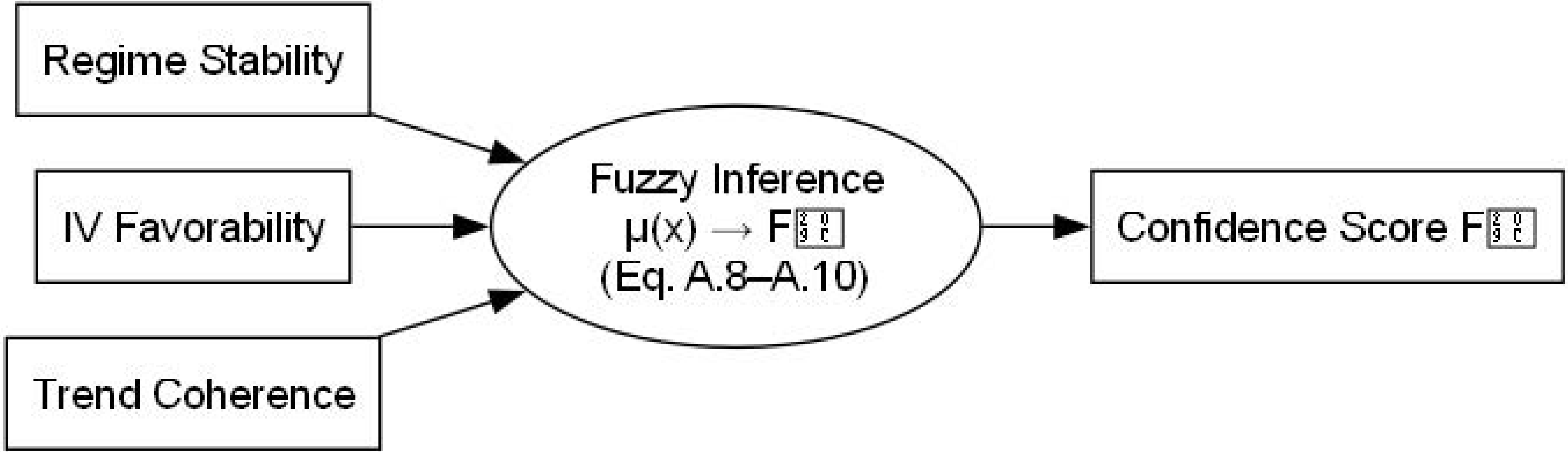

Market Data
OHLCV, Macro, Options Chain
(Eq. A.1–A.3)
MTF Sync Engine
Linear Interpolation
(Eq. A.5)
Regime Classification
Trending / Ranging / Volatile
(Eq. A.4)
MTF Consensus Score
$\Sigma\, w_i \cdot signal_i$
(Eq. A.5)
Fuzzy Inference Engine
Confidence Score F_t
(Eq. A.8–A.10)
Risk & Liquidity Gates
α_trade ≤ 0.02
(Eq. A.16)
Iron Condor Construction
CR ≥ CR_min
(Eq. A.18)
Execute Trade
OR
Hard Reject

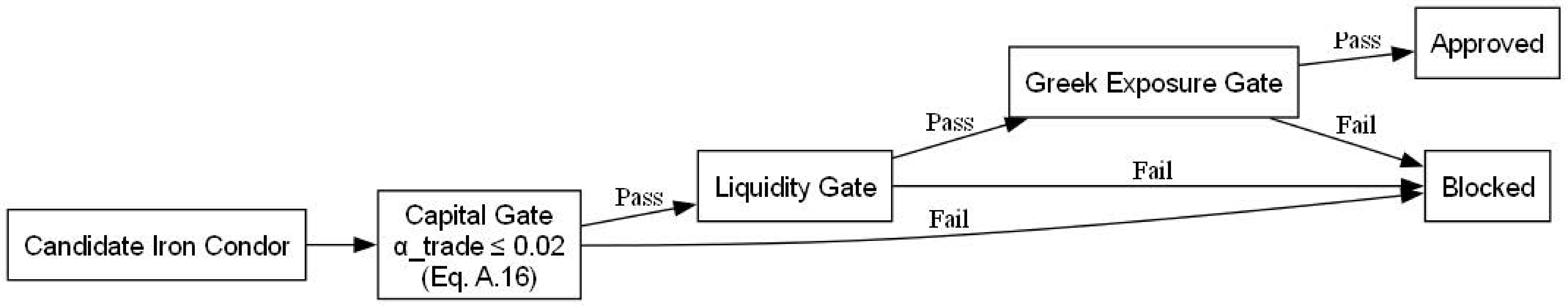


Valid Regime? (Eq. A.4)
Yes
No
MTF Alignment? (Eq. A.5)
Yes
No
Volatility Within Bounds?
Yes
No
Liquidity Constraints Met?
Yes
No
Capital-at-Risk ≤ 2% (Eq. A.16)
Yes
No
EXECUTE TRADE
REJECT TRADE

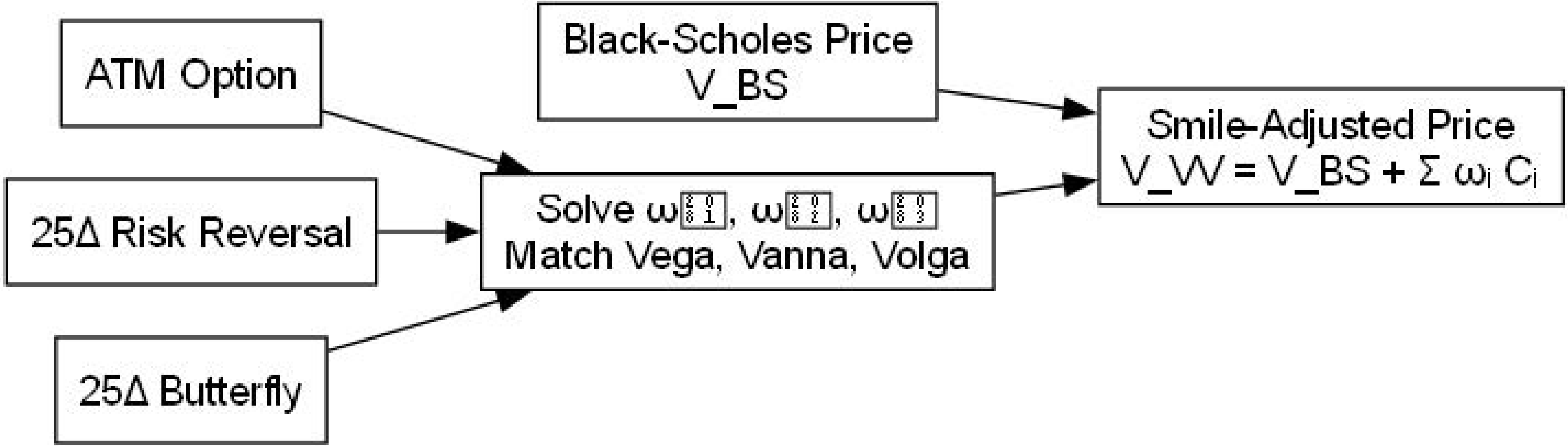


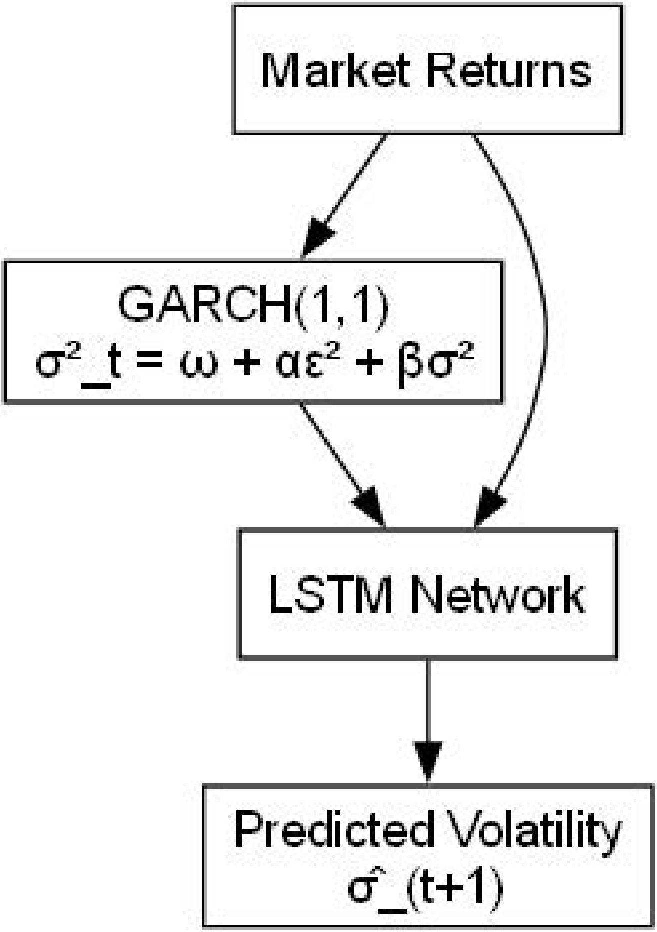
Daily Timeframe
w = 0.50
60-Min Timeframe
w = 0.35
5-Min Timeframe
w = 0.15
MTF Consensus
Score = Σ wᵢ·dᵢ
(Eq. A.5)

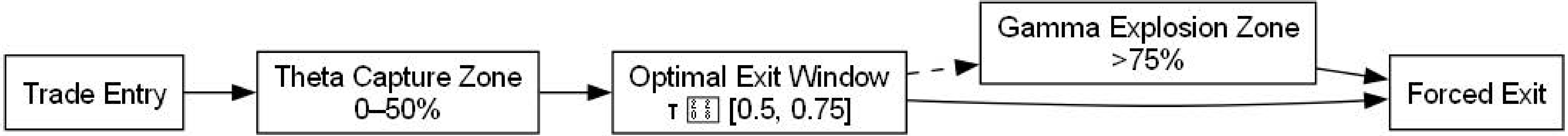

Regime Stability
IV Favorability
Trend Coherence
Fuzzy Inference
μ(x) → F
(Eq. A.8–A.10)
Confidence Score F



Candidate Iron Condor
Capital Gate
α_trade ≤ 0.02
(Eq. A.16)
Pass
Fail
Liquidity Gate
Pass
Fail
Greek Exposure Gate
Pass
Fail
Approved
Blocked


ATM Option
25Δ Risk Reversal
25Δ Butterfly
Black-Scholes Price
V_BS
Solve ω_1, ω_2, ω_3
Match Vega, Vanna, Volga
Smile-Adjusted Price
V_VV = V_BS + $\Sigma\, \omega_i C_i$


Market Returns
GARCH(1,1)
σ²_t = ω + αε² + βσ²
LSTM Network
Predicted Volatility
σ̂_(t+1)


Trade Entry
Theta Capture Zone
0–50%
Optimal Exit Window
τ [0.5, 0.75]
Gamma Explosion Zone
>75%
Forced Exit


Mathematical & Logical Decision Framework
Codex Cross Reference
Quantor-MTFuzz™ Engine
Software Test Status
Validation Feedback