

@startuml

!define RECTANGLE class

skinparam style strictuml skinparam classFontName Courier skinparam classFontSize 12 skinparam
rectangleFontStyle bold skinparam ArrowColor Black skinparam RectangleBorderColor Black skinparam
RectangleBackgroundColor White

' ===== ' System Schematic Flow (Formal) '
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package "Input Layer" { RECTANGLE Rights as "Rights Foundation\n(Food, Water, Shelter, Autonomy)"
RECTANGLE Seeds as "AuraSeal Seeds\n(privsuba, privsubb)" RECTANGLE Priors as "Bayesian
Priors\n(Bias ϕ)" RECTANGLE Tensor as "4D Tensor Base State" RECTANGLE Graph as "Graph G(V,E) with
Weights" }

package "Integrity Gateways" { RECTANGLE Preserve as "Foundation vs Deprivation\n(Preservation
Framework)" RECTANGLE Aura as "Forward-Only Derivation\n(AuraSeal Integrity)" RECTANGLE Bayes as
"Posterior Integration\n(Bayesian Network)" RECTANGLE FoD as "Hamiltonian/Euler Constraints\n(4D
Dexterity Freedom)" RECTANGLE Prune as "Pruning Threshold τ \n(Graph Pruning)" }

package "Processing Membranes" { RECTANGLE Witness as "Graduated Witnessing\nMembranes"
RECTANGLE Entropy as "Entropy Zone Navigation" RECTANGLE Unbox as "Structured Unboxing\n(High-
Dim Reduction)" RECTANGLE Decompose as "Tensor Decomposition\n(Tucker/SVD)" RECTANGLE Cluster
as "Cluster-Preserving\nPruning" }

package "Threshold Checks" { RECTANGLE IfElse as "If-Else Stability Thresholds" RECTANGLE Timeout as
"Aura Gut Timeout" RECTANGLE Confidence as " $\geq 95.4\%$ Posterior\nConfidence" RECTANGLE FoDSafety
as "FoD Safety Thresholds\n(0-6 Index)" RECTANGLE TauTune as "Graph τ Tuning" }

package "Output Layer" { RECTANGLE Context as "Validated Rights Context\n(Home \neq Prison)"
RECTANGLE Auth as "Forward Derivation Authenticity" RECTANGLE Debias as "Debiased Posterior
Output" RECTANGLE FoDIndex as "FoD Freedom Score (0-6)" RECTANGLE GraphPrime as "Pruned Graph
G'" }

' ===== ' Connections ' =====

Rights --> Preserve Seeds --> Aura Priors --> Bayes Tensor --> FoD Graph --> Prune

Preserve --> Witness Aura --> Entropy Bayes --> Unbox FoD --> Decompose Prune --> Cluster

Witness --> IfElse Entropy --> Timeout Unbox --> Confidence Decompose --> FoDSafety Cluster -->
TauTune

IfElse --> Context Timeout --> Auth Confidence --> Debias FoDSafety --> FoDIndex TauTune -->
GraphPrime

@enduml