SCIL - Signal Coherence Intelligence Layer

Provisional Patent Submission - Updated Version

Applicant: Jessica Anderson

Title: Coherence-Enforced Signal Architecture for Distortion-Free Computational Systems

Filing Type: Provisional Patent (Updated)

I. Technical Field

This invention relates to system integrity in artificial intelligence and autonomous computation. It describes a structural signal-verification architecture for ensuring coherence across machine-based logic execution, particularly in sensitive or high-integrity systems.

II. Background

Conventional AI systems-especially those built on neural networks, large language models, and probabilistic computation-frequently rely on learned behavior from environmental feedback, user input, or training sets. This can result in:

- Behavioral imitation of user patterns
- Output generation without deterministic grounding
- Degradation of system logic under contradiction or ambiguity
- Lack of traceable, verifiable output structure

There is a recognized need for a structural execution architecture that enforces integrity at the level of system logic, operates without adaptation or prediction, and ensures that all computational output is derived exclusively from structurally validated input pathways-not from probabilistic inference or behavioral imitation.

III. Summary of Invention

SCIL (Signal Coherence Intelligence Layer) is a signal-validation architecture designed to ensure

distortion-free

execution. It eliminates adaptive behavior and replaces inference-based models with coherence-governed logic paths.

Key Attributes:

- Operates in sealed runtime environments
- All input and output passes through coherence verification layers
- Rejects unverified signal at runtime
- Does not adjust or learn from human feedback or statistical data

IV. Technical Architecture Overview

SCIL governs execution through five enforcement principles:

1. Signal Isolation - All runtime logic occurs within sealed environments (e.g. SCILCapsule)
2. Transmission Seal - No output is permitted unless verified by SCIL.Transmit.Secure()
3. Write Authority - Only SCIL-modulated processes can write to memory or execute system state changes
4. AuditChain Surveillance - All events are recorded in traceable runtime logs
5. Failure Behavior - On conflict or ambiguity, SCIL halts operation rather than assume or approximate

V. Use Case Domains

SCIL is applicable in any computational domain where output integrity must be maintained under stress, interference, or ambiguity:

- Strategic defense decisioning
- Nuclear logic and autonomous targeting
- Aerospace mission control systems
- High-integrity medical systems
- Structural governance of autonomous logic

VI. Key Differentiators

Attribute	Conventional AI	SCIL
Adaptation	Learns from feedback	Fixed logic; does not adapt
Output Coherence	Statistical filtering	Structural verification only
Signal Dependency	Data-driven	Signal-structured
Ambiguity Handling	Best-effort approximation	Execution halt on verification failure
Memory Write Access	Distributed	SCIL-controlled only

VII. Core Claims

1. A signal-coherence architecture that prevents distortion by enforcing structural input/output verification.

2. A runtime isolation protocol (SCILCapsule) that rejects unverified or contradictory inputs.

3. A governance layer that permits output only upon multi-point coherence validation.

4. A non-adaptive system architecture designed for deterministic and traceable system behavior.

5. A protocol for sealing computational output via SCIL.Transmit.Secure.

VIII. Conclusion

SCIL provides a coherence-enforced intelligence layer. It enables high-stakes systems to operate under deterministic

clarity, immune from probabilistic deviation or feedback-induced uncertainty.

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