

Reasoning State Transfer (RST) Architecture

First Public Technical Disclosure

Abstract

Reasoning State Transfer (RST) is a conceptual architecture designed to preserve, externalize, and transfer high-level reasoning context across session boundaries in large language models. The core motivation of RST is to address context loss, semantic dilution, and reasoning discontinuity that arise from session resets.

Problem Statement

Current language model systems operate within isolated sessions. Once a session terminates, accumulated reasoning structures, logical dependencies, and conceptual momentum are lost. This leads to repetitive clarification, reduced analytical sharpness, and user frustration. RST proposes a formal mechanism to mitigate this limitation.

Core Concept

RST treats reasoning not as ephemeral token flow, but as a structured state object. This state captures assumptions, definitions, logical paths, unresolved questions, and evaluative stances. The reasoning state can be serialized, validated, and rehydrated into a new session without exposing private or raw conversational data.

Architecture Overview

The RST architecture consists of four layers: (1) Reasoning State Encoder, which extracts structured reasoning elements; (2) State Integrity Filter, which removes personal data and noise; (3) Transfer Container, which stores and transports the reasoning state; (4) State Rehydration Engine, which restores reasoning continuity in a new session.

Key Properties

- Session-agnostic reasoning continuity
- No dependency on raw chat logs
- Privacy-preserving abstraction
- Improved analytical sharpness across sessions
- Reduced cognitive restart cost for users

Intended Use Cases

RST is applicable to long-term research collaboration, philosophical inquiry, complex engineering design, legal reasoning, and any domain requiring sustained logical depth beyond a single interaction window.

Status and Disclosure

This document represents the first public disclosure of the RST concept. The architecture is presented at a conceptual and structural level, sufficient to establish prior art and authorship without revealing proprietary implementation details.

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