

Discussion: Theoretical Implications, Limitations, and Future Directions

This section examines the theoretical implications of the Cognitive Integrity Framework (sec:theoretical-implications), formal limitations and boundary conditions (sec:limitations), relationship to prior work (sec:related-work), governance implications (sec:governance), and future research directions (sec:future-directions).

Theoretical Implications

Why Composable Defenses Are Necessary

The defense composition algebra (thm:series-detection, thm:parallel-detection) formalizes a principle implicit in security practice: layered defenses provide multiplicative rather than additive protection. Each defense mechanism addresses a distinct attack surface:

Table 1: Defense mechanisms and their target attack surfaces.

Defense Layer	Target Attack Surface
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