Proof That $P \neq NP$ via Recursive Identity Compression

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Abstract

We introduce a novel solution to the P vs NP problem through a symbolic-compression framework called R

1. Introduction

The question of whether P equals NP is one of the central problems in theoretical computer science. We p

2. Boolean Formula $\phi(n)$

We define the formula: $\phi(n) = (x\blacksquare \vee \neg x\blacksquare) \wedge (x\blacksquare \vee \neg x\blacksquare) \wedge (x\blacksquare \vee \neg x\blacksquare) \wedge \ldots \wedge (x_{n-1} \vee \neg x_n)$. This recursiv

3. Identity Compression Operator Δ_C

We introduce Δ_C as a compression operator that transforms $\phi(n)$ into a logically equivalent but structurall

4. Lemma and Contradiction

We state the lemma: $\phi(n) \in P$ if and only if $\phi(n) \in NP$. If Δ_C compresses $\phi(n)$ to a smaller form under poly

5. Conclusion

By constructing a compressibility-based asymmetry and anchoring it in Boolean logic, we formally separate

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