The Fractonic Logic Manifesto

Rethinking Computation Beyond Binary

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Binary computing—reliable, universal, and foundational—has fueled humanity's digital revolution. But what if its simplicity conceals limitations?

This white paper introduces "Fractonic Logic," a conceptual framework where units of computation are not just 0 or 1, but include fractions—like 1/2, 1/3, and beyond. With implications for AI, neuromorphic computing, quantum-inspired systems, and real-world modeling, Fractonic Logic offers a richer, more human-aligned path forward.

Key Concepts:
- The Fracton: Fractional information unit
- FAND / FOR logic gates
- Analog-native logic operations
- Potential for richer data representation

Hardware Considerations:
While binary hardware dominates, emerging tech like memristors, multi-level memory, and analog gates could support fractonic systems. As history shows: where logic leads, hardware follows.

Endnote:
The question isn't whether binary will end. The question is: what lies beyond it?

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Santa Monica, CA