Single-Instruction, High-Dimension: A Unique Computational Model for AI
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In this research, we propose a novel intersection between Hyperdimensional Computing (HDC) and One Instruction Set Computing (OISC) to advance the field of artificial intelligence. By integrating HDC's high-dimensional vector operations with OISC's minimalist single-instruction architecture, we introduce a unique computing model that simplifies the hardware requirements while enhancing computational capabilities. This fusion has the potential to revolutionize AI algorithms by offering both efficiency and complexity, setting the stage for more resource-effective and powerful artificial intelligence systems.