

Implications of Recursive Distributed Representations

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Abstract: I will describe my recent results on the automatic development of fixed-width recursive distributed representations of variable-sized hierarchical data structures. One implication of this work is that certain types of AI-style data-structures can now be represented in fixed-width analog vectors. Simple inferences can be performed using the type of pattern associations that neural networks excel at. Another implication arises from noting that these representations become self-similar in the limit. Once this door to chaos is opened, many interesting new questions about the representational basis of intelligence emerge, and can (and will) be discussed.