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An Information Theoretic Representation of Agent Dynamics as Set Intersections

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We represent agents as sets of strings. Each string encodes a potential interaction with another agent or environment. We represent the total set of dynamics between two agents as the intersection of their respective strings, we prove complexity properties of player interactions using Algorithmic Information Theory. We show how the proposed construction is compatible with Universal Artificial Intelligence, in that the AIXI model can be seen as universal with respect to interaction.

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