

Hierarchical Decision Making

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STIDS 2013

Michigan Aerospace

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When Making Decisions, **Context** Matters.

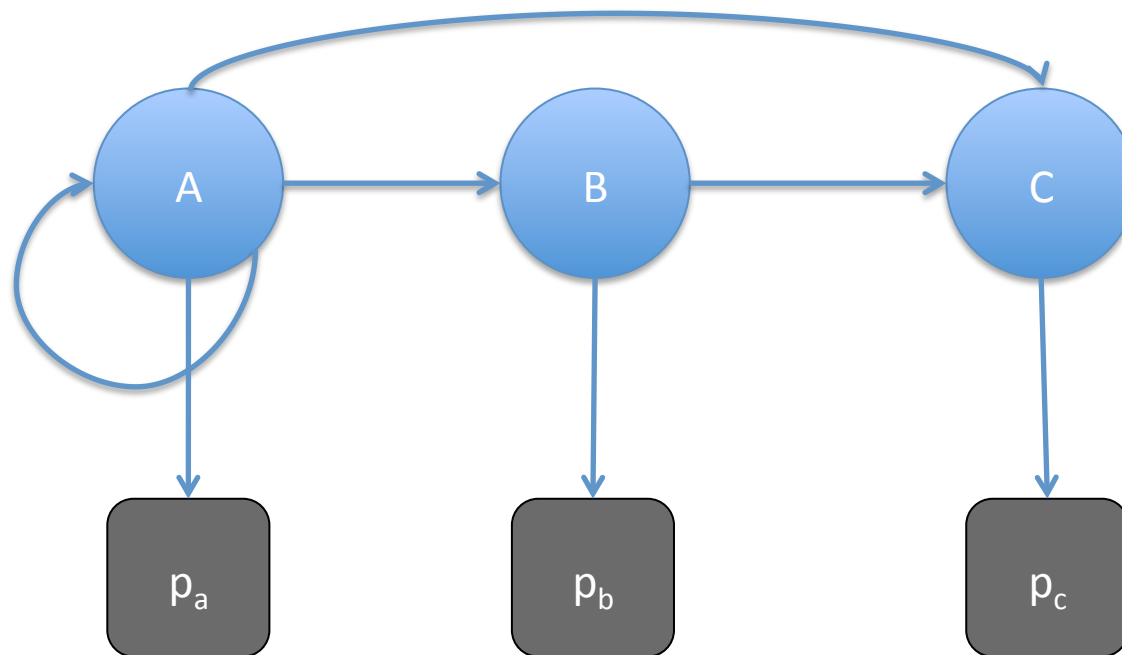
The logo for Michigan Aerospace features a blue, stylized arrow or wing shape pointing to the right, with the text "Michigan Aerospace" written in a blue, sans-serif font across its center.

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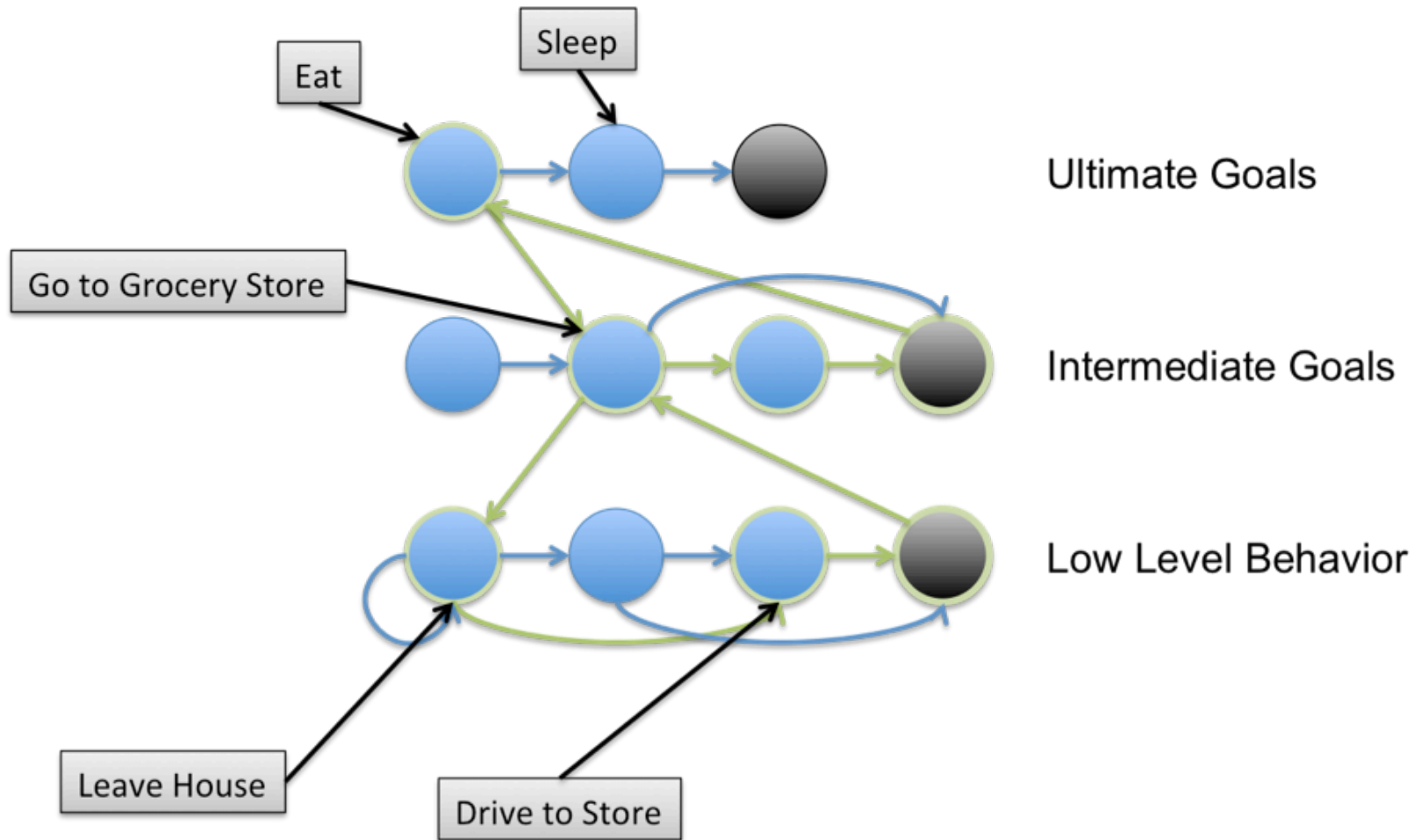
Context Should Be Represented as a Hierarchy



Approach: Hidden Markov Models



Hierarchical Hidden Markov Models



Learning Behavior: Reinforcement Learning

$$Q(s_t, a_t) + \alpha[r_{t+1} + \gamma \max_a Q(s_{t+1}, a) - Q(s_t, a_t)]$$



QUESTIONS?

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