



Who we are

- MIT
- Josh Tenenbaum
- Computational Cognitive Science Group

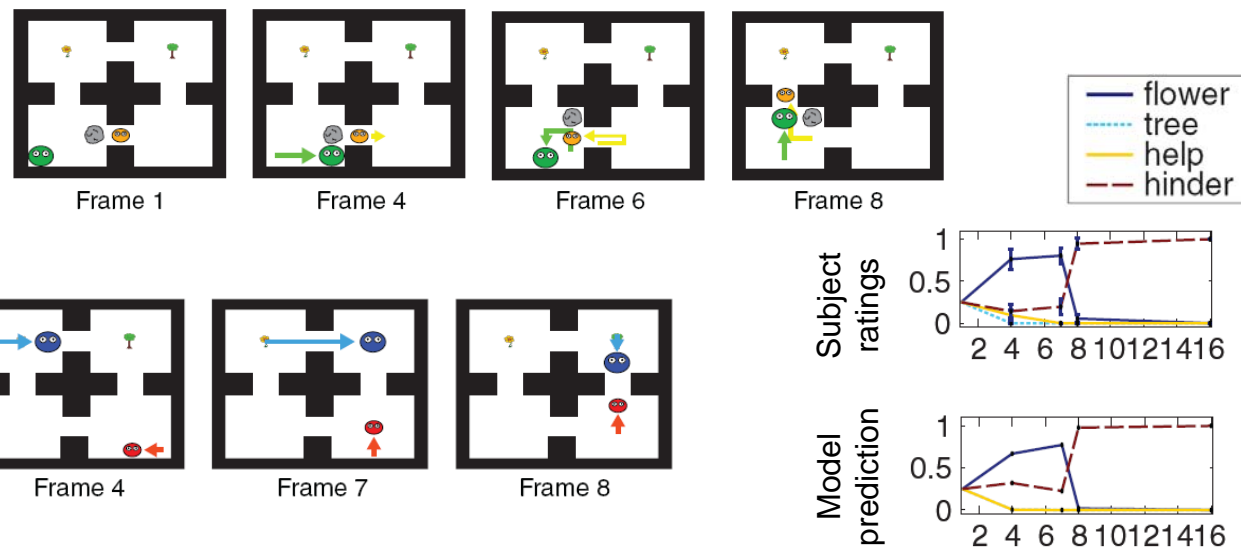
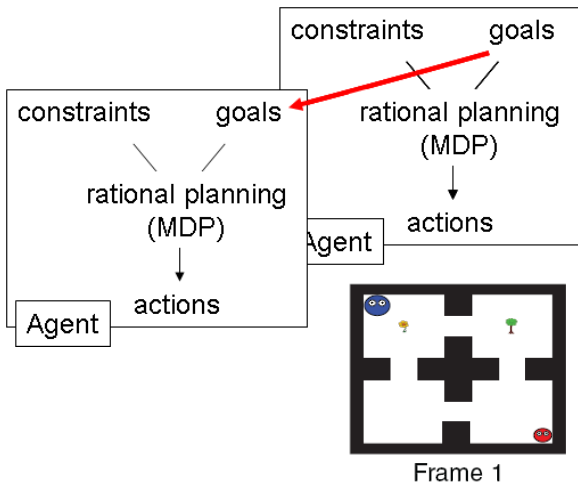
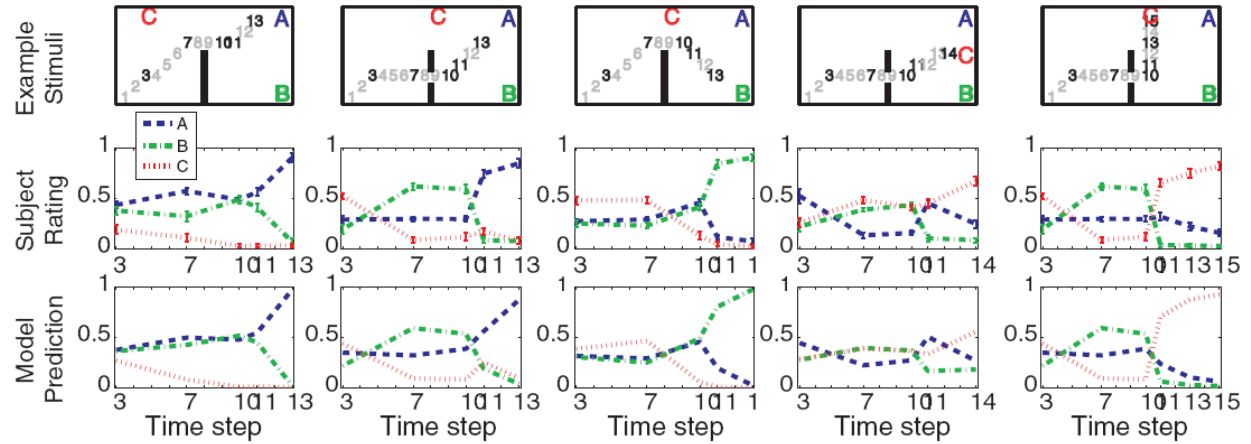
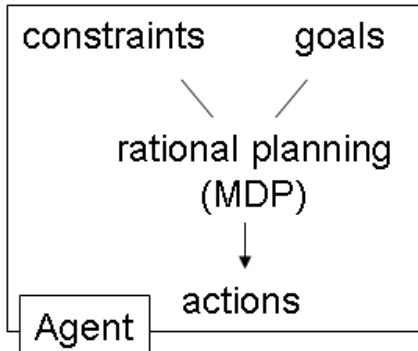


Our interests

- Reverse engineering human sensemaking:
 - How does background knowledge guide learning and inference from sparsely observed data?
 - What form does background knowledge take, across different domains and tasks?
 - How could background knowledge itself be learned?
 - How to balance strong constraints with representational flexibility?
- Modeling principles:
 - *Bayesian inference*, with probabilistic models and priors derived from background knowledge.
 - Probabilistic models defined over *structured representations*: graphs, grammars, logical theories, relational schemas, programs.
 - *Hierarchical Bayesian models*, with inference at multiple levels of abstraction.
 - *Nonparametric models*, growing in complexity and adapting their structure as the data require.



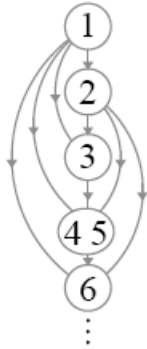
Goal inference as inverse probabilistic planning



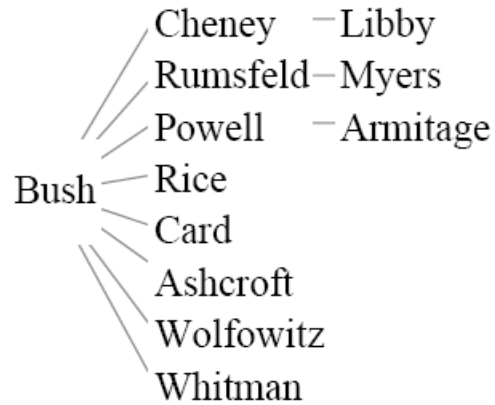


Learning the forms of social relations

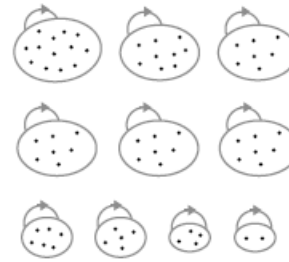
Dominance hierarchy



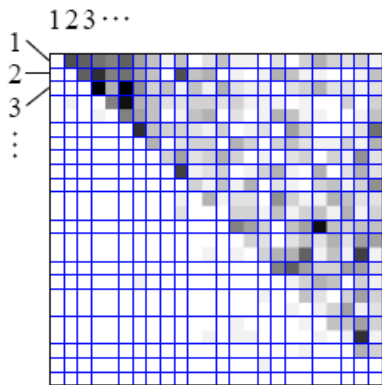
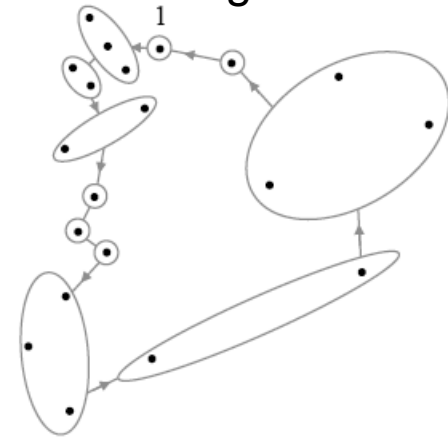
Tree



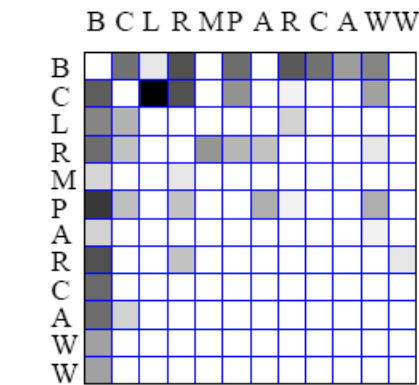
Cliques



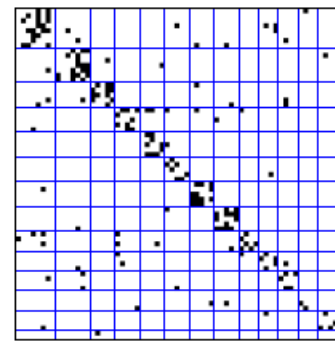
Ring



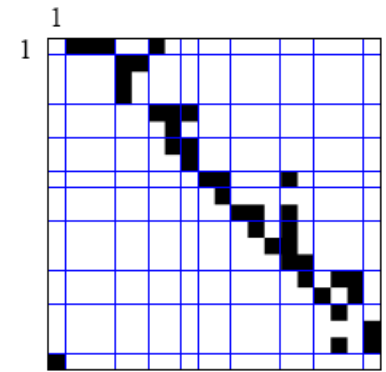
Primate troop
"x beats y"



Bush administration
"x told y"



Prison inmates
"x likes y"



Kula islands
"x trades with y"



Contact Information

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