Goal Recognition Design

Offline design as a way to facilitate online goal recognition

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Task Aware Waypoint Sampling for Planning Robots

Accounting for social norms, safety constraints and efficiency priorities in the selection of discrete configurations for robotic task planning.

Using **automated design** to identify the inherent **capabilities** and **limitations** of **AI** agents with respect to their environment
and to find the best way to **redesign** the environment to account for those limitations and **maximize** the agents' performance.

Design for Interpretability

Multi-Agent Reinforcement Learning Design

Designing environments with multiple self-interested, reinforcement learning agents in order to promote sustainable and socially-aware behaviors.
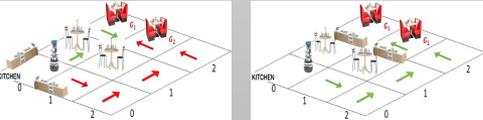
Information Shaping
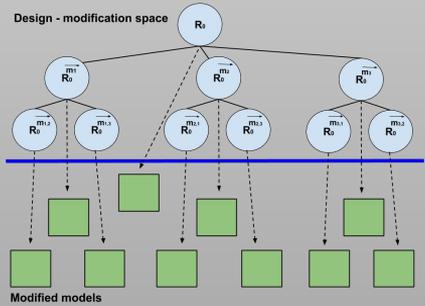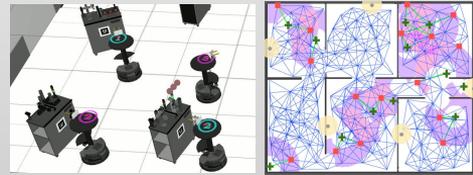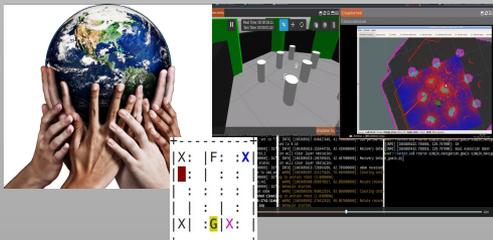
Finding the minimal information to reveal to a partially informed agent (user) to make sure the goal can be achieved/ recognized.

Design - modification space

Modified models

Design as a **best-first search**
Optimality guarantees achieved using **safe pruning** and **admissible heuristics**.

Markets of minds, skills, and information