Anticipating Human Intention for Full-Body Motion Prediction

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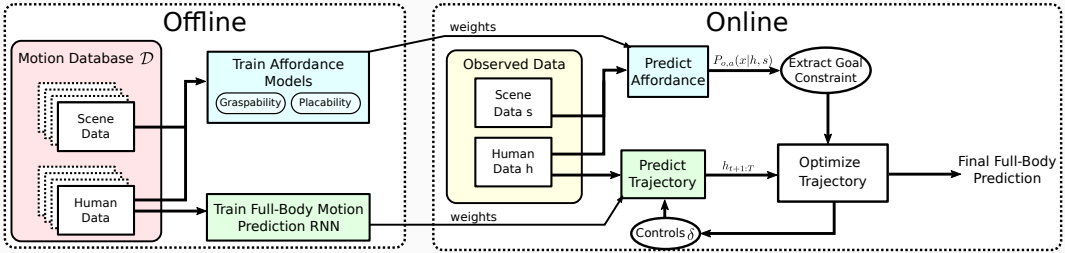
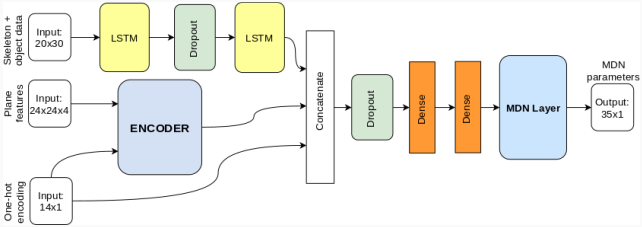
Overview

- Goal: Predict full-body trajectory in an environment
- Idea:
  1. Use affordances to extract goal
  2. Predict full-body trajectory towards goal



Method

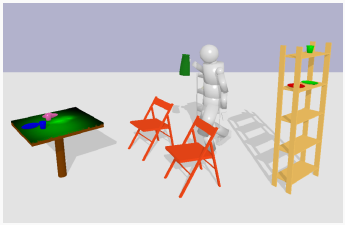
- Probabilistic affordance network



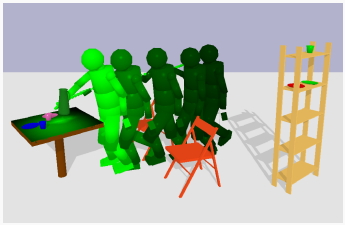
- Extract goal from affordance
- Combine with RNN based motion prediction framework (ICRA 2020 paper[1])

[1] Kratzer, Philipp; Toussaint, Marc; Mainprice, Jim; *Prediction of Human Full-Body Movements with Motion Optimization and Recurrent Neural Networks*; ICRA 2020; `https://ras.papercept.net/proceedings/ICRA20/3747.pdf`

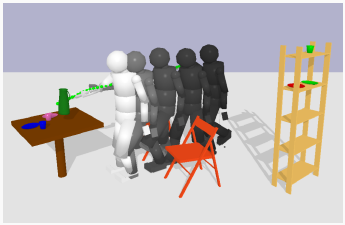
Experiments



(a) placement affordance on table



(b) prediction



(c) ground truth

- Experiments on real motion data
- Framework able to predict close to ground truth trajectories