Predicting Whole-Body Motion Trajectories using Conditional Neural Movement Primitives

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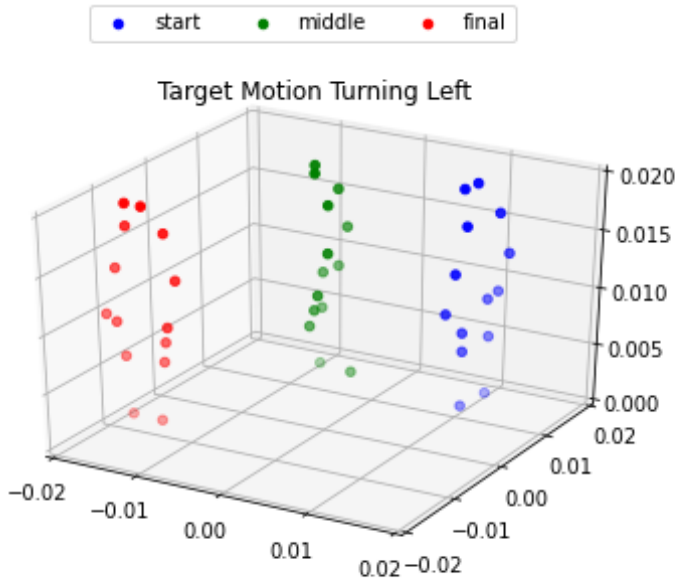
Overview

- Objective: Predicting whole-body motion trajectories
- Need to encode complex trajectory distributions of different behaviours
- Should predict trajectories based on observations



Proposed Method

- Employ CNMPs, a robot learning from demonstration framework
- Condition it on body configurations to make trajectory predictions

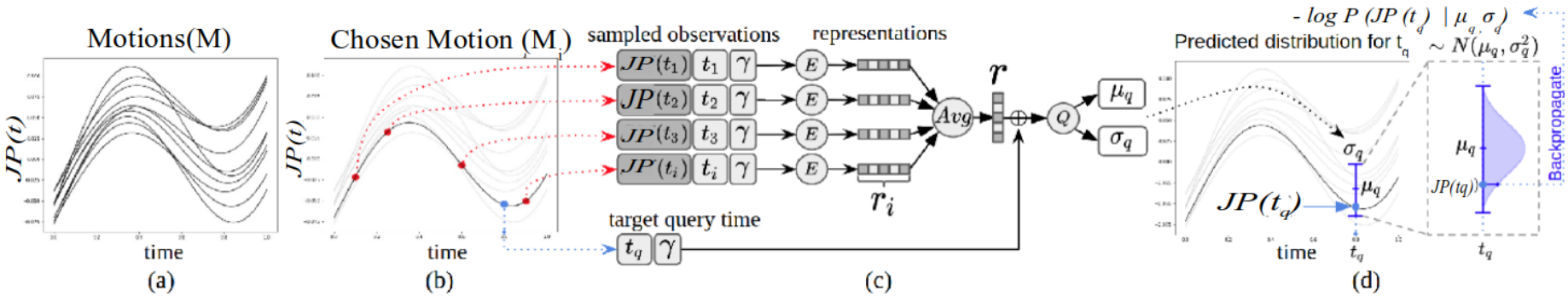


Figure: CNMPs model

Results

- Successful at learning a single or multiple motion behaviours
- Result animations: `https://youtu.be/A4tWZLO04fA`
- Future work: More complex trajectories,comparison with related work

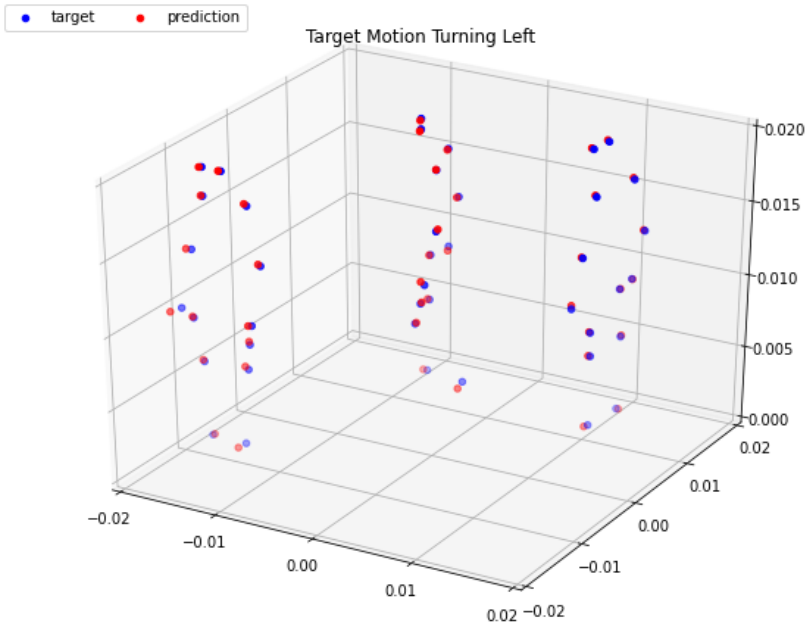


Figure: Walking straight

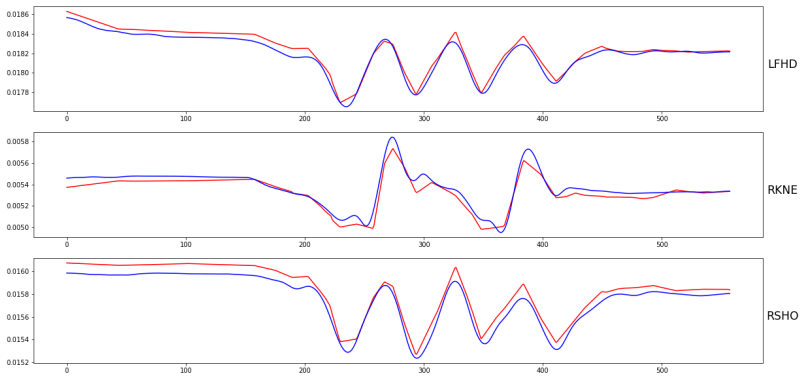


Figure: Snapshots from Turning Left motion. Target and predicted body configurations at 3 sequential time-steps are depicted.