Reviews For Paper

Paper ID 43

Title Robotic cloth manipulation for clothing assistance task using Dynamic Movement Primitives

Masked Reviewer ID: Assigned_Reviewer_1

Review:

Question	
Overall Rating	Accept
Originality of technical content	Original research
Detailed Comments on strengths, weakness and suggestions how the paper could be improved	The authors propose a robotic cloth manipulation system using DMP. The main comments are as given below: 1. Please explain the terms of equations 1 and 2 clearly. If you open the brackets of equation 1 then Kg and -Kg will cancel? This means that goal position does not have any effect? The damping term is scaled by the scaling term. Is it a variable variable K and D case? If equation 1 is for a dynamical system defined by F=Mass X accn then mass given by the scaling term cannot be a variable (must be a constant). 2. AS only three coordinates (x,y,z) of the wrist are considered does the wrist roll,pitch and yaw have no part in the orientation of the griper for holding the cloth? 3. Angle of inclination is defined in 2D and not as a 3D angle, is it sufficient? 4. Why is the trajectory in Fig 4 not smooth? I would imagine that human trajectories would be smooth?

Masked Reviewer ID: Assigned_Reviewer_2

Review:

Question	
Overall Rating	Accept
Originality of technical content	average
Detailed Comments on strengths, weakness and suggestions how the paper could be improved	Comments: 1. The contribution of the paper need to be stated more explicitly 2. In Eqn(1), K was considered as spring constant. However, the same constant is used as coefficient for non- linear function. Need to clarify this

	3. Para next to Equ 5 is not clear "In other words, we want to setup a system which can follow specified path. The forcing term can be redefined as:" 4. Modified DMP has not been discussed anywhere in the paper except in figure 3. 5. The flow in figure 3 is misleading. Is it correct to have DMP generalization after Testing Phase? 6. In 4.1, it was mentioned as "At this point, we use Kinect Sensor to get 3D coordinates of wrist and shoulder of mannequin." how it could be possible without using any markers to recognize wrist and shoulder of mannequin. 7. In figure 4, it would have been meaningful if the reference coordinate frame is shown. Typos 1) "DMP can learn complex task from the demonstration [7, 8, 16] and thus reduce the manual efforts to design a controller from scratch or to €ne-tune various controller parameters. We choose dual arm Baxter robot in this research as" Repeated twice. 2) Equ (6) has double negative 3) Section 5, line 5 typo 'perform' 4) Formatting need to be checked

Masked Reviewer ID: Assigned_Reviewer_3

Review:

Question	
Overall Rating	Accept
Originality of technical content	Original research
Detailed Comments on strengths, weakness and suggestions how the paper could be improved	The paper presents an attempt towards robotic assistance in clothing. Dual arm Baxter robot is used for the entire study and implementation of the proposed idea. Focus of the paper is at the utilization of Dynamic Movement Primitives for faster and effective controller writing through learning. The presented work is considered suitable for its presentation at the conference. The literature study is relevant and connected. Effect of different postures is dealt with and the challenges are presented systematically as two difficulties – Cooperative Manipulation with non-rigid and highly deformable cloth and Safe human-robot interaction. The paper is inclined towards the former challenge and presents the dynamic modelling technique through DMP. Following is recommended for better clarity of the readers. 1. End-effector forces may be shown through a diagram or through some description. 2. Figure 5 is referred before figure 4. Please make the necessary changes, if required. 3. Figure 4 and 7 needs more clarity on the significance of the plots. Little description can be added in the captions itself.