

Supplementary Materials

Table S1. Knee joint position reproduction test trials overview. Reasons for exclusion of trials were; one of more joints (e.g., ankle, knee, hip, shoulder) were not visible in the video recording, a measurement error occurred (the trial was not captured on video or the joint angle was not accurately calculated in VICON), one or more videos of a child were used for additional labelling to extend the DeepLabCut neural network or if there was unconfident tracking of joints by using DeepLabCut (DLC outlier).

subject ID	left or right (L/R)	nr of collected trials	nr of excluded trials due to...				nr of trials used for statistical analysis
			no visibility of joints in videos	measurement error (no videos or VICON error)	labelling one or more trials of a subject	DLC outlier	
1	L	3	0	0	0	0	3
2	L	3	0	0	0	0	3
3	L	3	0	3	0	0	0
4	L	3	0	0	0	1	2
5	L	3	0	0	0	0	3
6	L	3	0	0	0	0	3
7	L	3	0	0	0	0	3
8	L	3	0	0	0	0	3
9	L	3	0	0	3	0	0
10	L	3	1	0	0	0	2
11	L	3	0	0	3	0	0
12	L	3	0	3	0	0	0
13	L	3	0	0	3	0	0
14	L	3	1	0	0	0	2
15	L	3	3	0	0	0	0
all subjects (left trials)	L	45	5	6	9	1	24
1	R	3	0	0	0	0	3
2	R	3	2	0	0	0	1
3	R	3	0	3	0	0	0
4	R	3	0	0	0	3	0
5	R	3	0	0	3	0	0
6	R	3	0	0	0	0	3
7	R	3	0	1	0	0	2
8	R	3	0	0	0	0	3
9	R	3	0	1	0	0	2
10	R	3	0	0	3	0	0
11	R	3	0	0	0	0	3
12	R	3	0	3	0	0	0
13	R	3	0	0	3	0	0
14	R	3	1	1	0	0	1

15	R	3	3	0	0	0	0
all subjects (right trials)	R	45	6	9	9	3	18
all subjects (left + right trials)	L + R	90	11	15	18	4	42

Table S2. Hip joint position reproduction test trials overview. Reasons for exclusion of trials were; one of more joints (e.g., ankle, knee, hip, shoulder) were not visible in the video recording, a measurement error occurred (the trial was not captured on video or the joint angle was not accurately calculated in VICON), one or more videos of a child were used for additional labelling to extend the DeepLabCut neural network or if there was unconfident tracking of joints by using DeepLabCut (DLC outlier).

subject ID	left or right (L/R)	nr of collected trials	nr of excluded trials due to...				nr of trials used for statistical analysis
			no visibility of the joints in videos	Measurement error (no videos or VICON error)	labelling one or more trials of a subject	DLC outlier	
1	L	3	0	0	0	0	3
2	L	3	0	0	0	0	3
3	L	3	0	3	0	0	0
4	L	3	0	0	0	1	2
5	L	3	0	1	0	0	2
6	L	3	0	0	3	0	0
7	L	3	0	0	0	0	3
8	L	3	0	0	3	0	0
9	L	3	0	0	3	0	0
10	L	3	0	0	0	0	3
11	L	3	0	0	0	0	3
12	L	3	0	3	0	0	0
13	L	3	3	0	0	0	0
14	L	3	0	0	3	0	0
15	L	3	0	0	0	0	3
16	L	3	0	3	0	0	0
17	L	3	0	3	0	0	0
18	L	3	0	0	0	0	3
19	L	3	0	3	0	0	0
20	L	3	0	3	0	0	0
21	L	3	0	1	0	0	2
all subjects (left trials)	L	63	3	20	12	1	27
1	R	3	0	0	3	0	0
2	R	3	0	0	3	0	0
3	R	3	0	3	0	0	0
4	R	3	0	0	0	3	0
5	R	3	0	0	3	0	0

6	R	3	0	0	0	1	2
7	R	3	0	0	0	0	3
8	R	3	0	0	0	0	3
9	R	3	0	0	0	2	1
10	R	3	2	0	0	0	1
11	R	3	3	0	0	0	0
12	R	3	0	3	0	0	0
13	R	3	0	0	3	0	0
14	R	3	2	0	0	0	1
15	R	3	0	0	0	0	3
16	R	3	0	3	0	0	0
17	R	3	0	3	0	0	0
18	R	3	0	3	0	0	0
19	R	3	0	3	0	0	0
20	R	3	0	3	0	0	0
21	R	3	0	1	0	2	0
all subjects (right trials)	R	63	7	22	12	8	14
all subjects (left + right trials)	L + R	126	10	42	24	9	41

Table S3. Train and test pixel errors of the different DeepLabCut neural networks.

	Pixel errors	
	<i>Train error</i>	<i>Test error</i>
Left knee network	1.41	2.91
Right knee network	1.22	3.95
Left hip network	0.82	1.81
Right hip network	0.70	2.83