

# Supplementary Material for GroundLink: A Dataset Unifying Human Body Movement and Ground Reaction Dynamics

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## 1 MARKER LIST AND LOCATIONS

We provide full list of detailed marker locations for upper body, lower body and both feet (Table. 1). A total of 96 markers are used for motion capture.

**Table 1: Description of Marker List**

Marker Name	Body Segment	Location
<b>Upper Body</b>		
head_top	Head	Apex of the head
head_l_ant <sup>‡</sup>	Head	Left/Right anterolateral aspect of forehead. <sup>†</sup>
head_r_ant <sup>‡</sup>	Head	Left/Right posterolateral aspect of forehead. <sup>†</sup>
head_l_post <sup>‡</sup>	Head	Left/Right posterolateral aspect of forehead. <sup>†</sup>
head_r_post <sup>‡</sup>	Head	Left/Right posterolateral aspect of forehead. <sup>†</sup>
l_acro, r_acro	Trunk	Superior aspect of the left/right acromion process.
trunk_manu <sup>‡</sup>	Trunk	Top bony surface of the sternal notch.
trunk_xyph <sup>‡</sup>	Trunk	Xiphoid process
trunk_abdl <sup>‡</sup>	Trunk	Front middle abdominal
trunk_c7 <sup>‡</sup>	Trunk	C7 process
trunk_t8	Trunk	Along the spine midway between the tips of the scapula.
trunk_t12	Trunk	T12 or the lower back
l_sho_ant, r_sho_ant	Upper arm	Anterior to the left/right humeral head.
l_sho_post, r_sho_post	Upper arm	Posterior to the left/right humeral head.
l_bicep, r_bicep	Upper arm	Anterior on the left/right upper arm over the bicep.
l_tricep, r_tricep	Upper arm	Posterior on the left/right upper arm over the triceps.
l_elb_lat <sup>‡</sup>	Forearm	On the left/right elbow's lateral epicondyle.
r_elb_lat <sup>‡</sup>	Forearm	On the left/right elbow's lateral epicondyle.
l_elb_med <sup>‡</sup>	Forearm	On the left/right elbow's medial epicondyle.
r_elb_med <sup>‡</sup>	Forearm	On the left/right elbow's medial epicondyle.

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Marker Name	Body Segment	Location
l_farm_ant, r_farm_ant	Forearm	Proximal anterior aspect of left/right forearm.
l_farm_pos, r_farm_pos	Forearm	Proximal posterior aspect of left/right forearm.
l_wri_lat, r_wri_lat	Forearm	Lateral aspect of the left/right wrist's radial styloid.
l_wri_med, r_wri_med	Forearm	Lateral aspect of the left/right wrist ulnar styloid.
l_hand <sup>‡</sup> r_hand <sup>‡</sup>	Hand	Posterior aspect of left/right hand.
l_thmb, r_thmb	Hand	Posterior aspect of left/right thumb.

## Lower Body

pelvis_l_asis, pelvis_r_asis	Pelvis	Left/Right anterior superior iliac spine
pelvis_l_ilcr, pelvis_r_ilcr	Pelvis	Left/ Right iliac crest.
pelvis_sac	Pelvis	Sacrum
pelvis_l_psis, pelvis_r_psis	Pelvis	Sacrum on left/right.
pelvis_l_pelvis_r	Pelvis	Left/right side of the pelvis between the ASIS and ILCR markers.
l_hip_grtr <sup>‡</sup> , r_hip_grtr <sup>‡</sup>	Thigh	Left/Right greater trochanter
l_thigh_antprox, r_thigh_antprox	Thigh	Proximal and anterior on the left/right thigh cluster.
l_thigh_postprox, r_thigh_postprox	Thigh	Proximal and posterior on the left/right thigh cluster.
l_thigh_antdist, r_thigh_antdist	Thigh	Distal and anterior on the left/right thigh cluster.
l_thigh_postdist, r_thigh_postdist	Thigh	Distal and posterior on the left/right thigh cluster.
l_thigh_ant, r_thigh_ant	Thigh	On the distal anterior surface of the thigh above the knee.
l_thigh_med, r_thigh_med	Thigh	Medial on the left/right thigh about halfway on the segment.
l_thigh_post, r_thigh_post	Thigh	On the posterior surface of the thigh the same height as the cluster.
l_knee_lat <sup>‡</sup> , r_knee_lat <sup>‡</sup>	Thigh	On the left/right knee's lateral femoral epicondyle.
l_knee_med <sup>‡</sup> , r_knee_med <sup>‡</sup>	Thigh	On the left/right knee's medial femoral epicondyle.

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Marker Name	Body Segment	Location
l_shank_antprox, r_shank_antprox	Shank	Proximal and anterior on the left/right shank cluster.
l_shank_postprox, r_shank_postprox	Shank	Proximal and posterior on the left/right shank cluster.
l_shank_antdist, r_shank_antdist	Shank	Distal and anterior on the left/right shank cluster.
l_shank_postdist, r_shank_postdist	Shank	Posterior and distal on the left/right shank cluster.
l_shank_med, r_shank_med	Shank	Medial side of the left/right shank halfway on the segment.

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**Feet**

l_ank_lat <sup>‡</sup> r_ank_lat <sup>‡</sup>	Foot	Lateral malleolus of the left/right ankle.
l_ank_med, r_ank_med	Foot	Medial malleolus of the left/right ankle.
l_foot_heel <sup>‡</sup> r_foot_heel <sup>‡</sup>	Foot	Posterior on the heel about the same height as the toe marker.
l_foot_lat, r_foot_lat	Foot	Midway between the lateral malleoli and 5th metatarsal markers on the left/right foot.
l_foot_m5, r_foot_m5	Foot	Lateral aspect of the distal end of the 5th metatarsal.
l_foot_m2, r_foot_m2	Foot	Superior distal aspect of the 2nd metatarsal on the left/right foot.
l_foot_toe <sup>‡</sup> r_foot_toe <sup>‡</sup>	Foot	Superior tip of the shoe in line with the 2nd metatarsal marker on the left/right foot.
l_foot_m1, r_foot_m1	Foot	Medial distal aspect of 1st metatarsal head on the left/right foot.
l_foot_med, r_foot_med	Foot	Midway between the medial malleoli and 1st metatarsal markers on the left/right foot.
l_foot_navi, r_foot_navi	Foot	Navicular of the left/right foot. Near where the shoes are tied.

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Concluded

<sup>†</sup> All four head markers are in the transverse plane.

<sup>‡</sup> Used for pose parameters and surface mesh optimization