Fusing Wearable IMUs with Multi-View Images for Human Pose Estimation: A Geometric Approach

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1. Additional Results on H36M Dataset

Table 1. 2D pose estimation accuracy on the H36M Dataset."SN" means SimpleNet which is the baseline. ORN^{same} and ORN, respectively represent that the same-view and cross-view fusion are used. "Mean (six)" is the average accuracy over the six joint types. "Others" is the average accuracy over the rest of the joints. "Mean (All)" is the average accuracy over all joints.

Methods	PCKh@	Hip	Knee	Ankle	Shoulder	Elbow	Wrist	*Mean (Six)*	Others	Mean (All)
SN	1/2	99.7	97.8	97.2	99.7	98.6	95.9	98.2	99.9	98.7
ORN^{same}	1/2	99.7	99.2	98.2	99.8	99.4	98.3	99.1	99.9	99.3
ORN	1/2	**99.8**	**99.4**	**98.5**	**99.9**	**99.5**	**98.6**	**99.3**	99.9	99.5
SN	1/6	96.8	91.7	81.8	93.8	89.1	83.6	89.5	98.7	92.2
ORN^{same}	1/6	97.7	95.9	89.8	94.1	91.5	87.3	92.7	98.7	94.5
ORN	1/6	**98.6**	**97.0**	**92.7**	**95.9**	**93.1**	**90.6**	**94.7**	98.7	95.9
SN	1/12	74.1	64.1	41.2	65.2	64.4	60.6	61.6	84.7	68.4
ORN^{same}	1/12	75.3	78.1	56.6	68.2	70.7	64.2	68.8	84.7	73.5
ORN	1/12	**79.1**	**78.4**	**61.6**	**70.3**	**71.5**	**67.2**	**71.3**	84.7	75.3

We present the 2D pose estimation accuracy (measured by PCKh@t) on the H36M Dataset in Table 1. At all threshold of PCKh, our fusion methods consistently outperforms the baseline *"SN"*, and the cross-view fusion method *ORN* achieves better performance than the same-view fusion method ORN^{same}, which is consistent with the 3D results in Table 4 of the main manuscript.

2. Code Release

Source code will be released at https://github.com/microsoft/imu-human-pose-estimation-pytorch.