
Fast and Scalable Training of Semi-Supervised CRFs with Application to Activity Recognition

Supporting Material

1 Classification accuracies for the activity recognition datasets

Class	Average Accuracy (%)		
	ML+all obs	ML+Boost	VEB
Sitting	74.1 \pm 5.2	84.8 \pm 3.3	86.8 \pm 5.1
Standing	68.7 \pm 4.6	84.2 \pm 3.1	89.6 \pm 5.2
Walking	84.5 \pm 3.1	89.7 \pm 2.4	93.7 \pm 3.8
Walking up stairs	74.2 \pm 2.8	86.5 \pm 1.9	95.3 \pm 3.4
Walking-down-stairs	80.9 \pm 2.5	85.3 \pm 2.3	92.5 \pm 2.4
Riding elevator down	76.3 \pm 2.7	83.6 \pm 1.5	95.1 \pm 3.1
Riding elevator up	79.4 \pm 2.2	84.7 \pm 1.7	96.8 \pm 1.9
Brushing teeth	84 \pm 1.8	90.3 \pm 1.3	98.2 \pm 1.7

Table 1: Average class accuracy \pm 95% confidence interval of supervised algorithms on dataset 1.

Class	Average Accuracy (%)		
	ML+all obs	ML+Boost	VEB
Sitting	75.9 \pm 3.5	82.5 \pm 3.5	82.5 \pm 3.8
Standing	68.1 \pm 4.2	77.4 \pm 5.2	77.4 \pm 5.7
Walking	75 \pm 4.8	79.6 \pm 4.6	79.6 \pm 4.1
Walking up stairs	76.4 \pm 2.1	84.2 \pm 2.4	84.2 \pm 2.9
Walking-down-stairs	78.6 \pm 2.2	83.9 \pm 2	83.9 \pm 2.5
Riding elevator down	75.2 \pm 2.4	84.4 \pm 2.6	84.4 \pm 3.1
Riding elevator up	78.7 \pm 2.1	85.1 \pm 2.9	85.1 \pm 3.2
Brushing teeth	83.1 \pm 1.5	89.8 \pm 1.4	89.8 \pm 2.3

Table 2: Average class accuracy \pm 95% confidence interval of semi-supervised algorithms on dataset 1.

Class	Average Accuracy (%)		
	ML+all obs	ML+Boost	VEB
Computer usage	88.1 \pm 3.6	88.6 \pm 3.4	92.1 \pm 4.4
Having meal	83.7 \pm 2.5	89.2 \pm 2.9	96.9 \pm 4.9
Meeting	84.3 \pm 4.2	85.1 \pm 4.5	88.6 \pm 5.6
Watching TV	85.4 \pm 2.9	86 \pm 2.7	92.7 \pm 4
Sleeping	87.2 \pm 2.1	87.9 \pm 2.3	97.4 \pm 3.9

Table 3: Average class accuracy \pm 95% confidence interval of supervised algorithms on dataset 2.

Class	Average Accuracy (%)		
	ML+all obs	ML+Boost	VEB
Computer usage	75.4 \pm 3.1	78.8 \pm 2.5	81.6 \pm 3.9
Having meal	72.9 \pm 2.5	74.3 \pm 3.2	90.9 \pm 4.1
Meeting	71.3 \pm 5.5	70.1 \pm 4.8	84.5 \pm 4.5
Watching TV	74.1 \pm 4.3	73.9 \pm 3.1	83.7 \pm 5.1
Sleeping	80.6 \pm 2.9	85.6 \pm 2.4	94.9 \pm 2.6

Table 4: Average class accuracy \pm 95% confidence interval of semi-supervised algorithms on dataset 2.