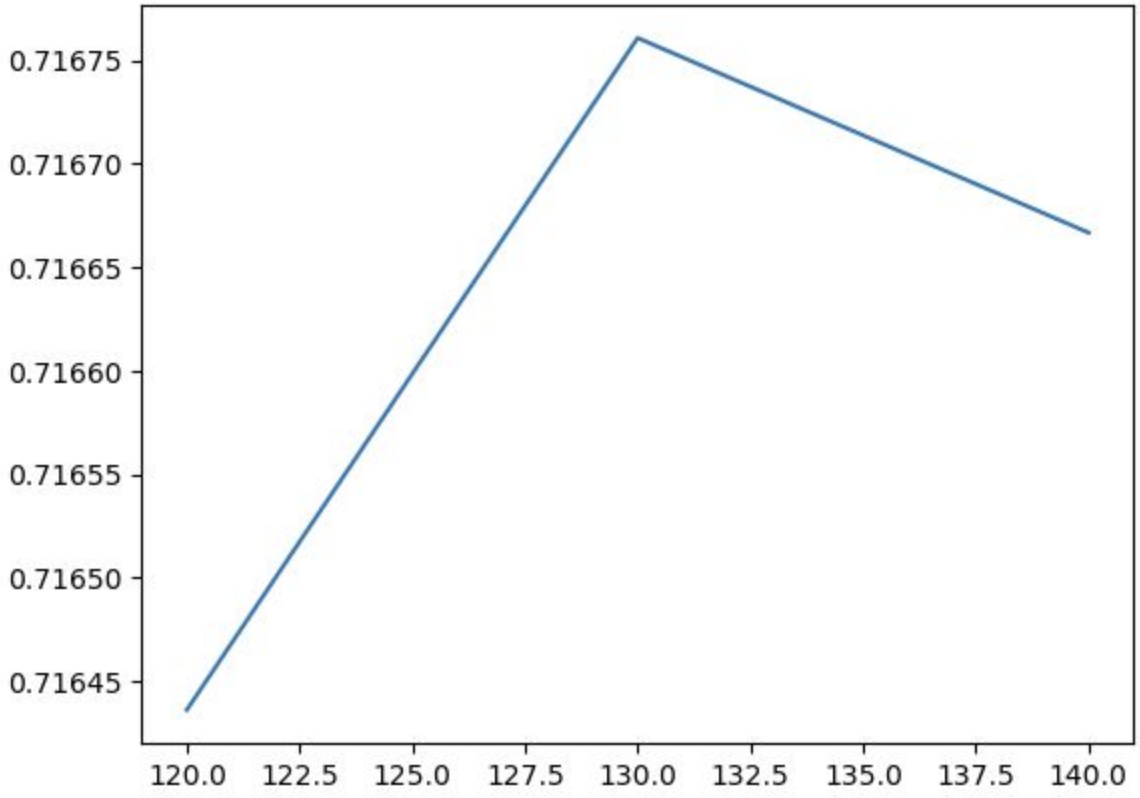
Results of KNN models

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Best K is:  130  has value:  0.7167606926719783
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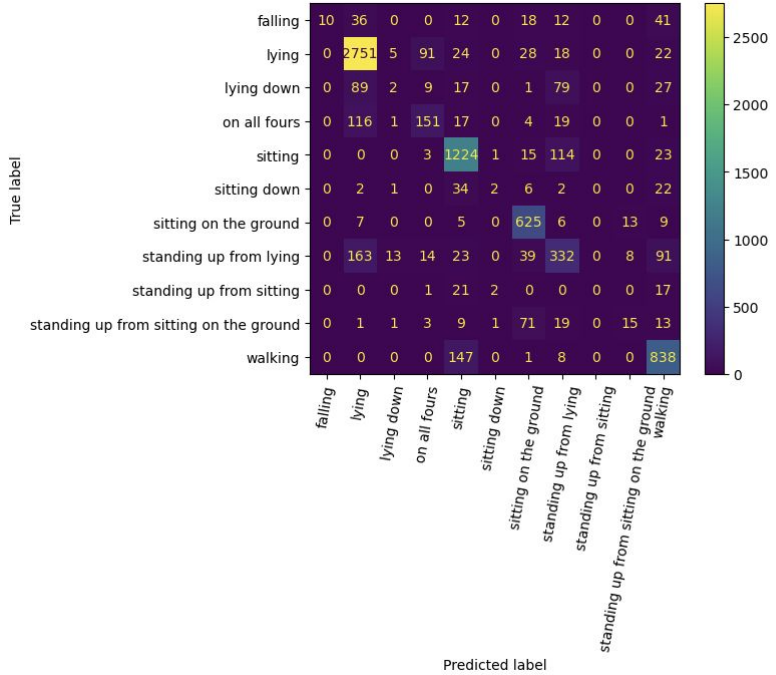
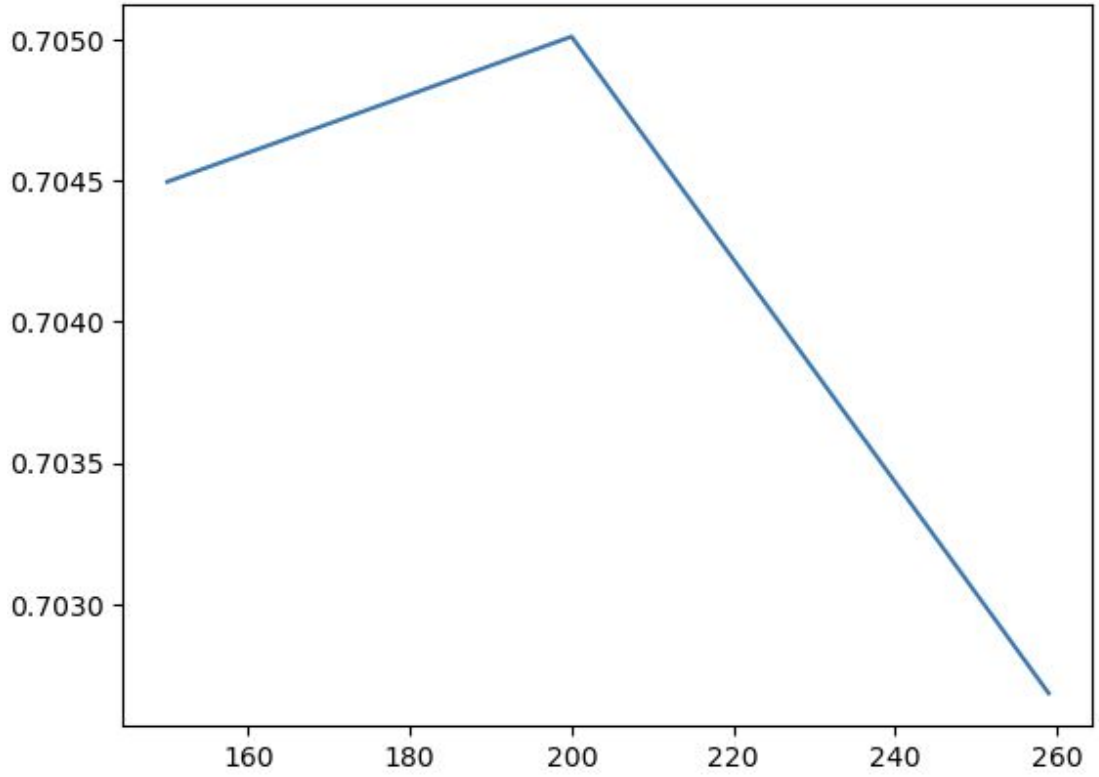
K-Value testing using only chest sensor.

	precision	recall	f1-score	support
falling	1.00	0.08	0.14	129
lying	0.87	0.94	0.90	2939
lying down	0.09	0.01	0.02	224
on all fours	0.56	0.49	0.52	309
sitting	0.80	0.89	0.84	1380
sitting down	0.33	0.03	0.05	69
sitting on the ground	0.77	0.94	0.85	665
standing up from lying	0.55	0.49	0.51	683
standing up from sitting	0.00	0.00	0.00	41
standing up from sitting on the ground	0.42	0.11	0.18	133
walking	0.76	0.84	0.80	994
accuracy			0.79	7566
macro avg	0.56	0.44	0.44	7566
weighted avg	0.75	0.79	0.76	7566



KNN using inly chest sensor. K=130. Accuracy report and confusion matrix.

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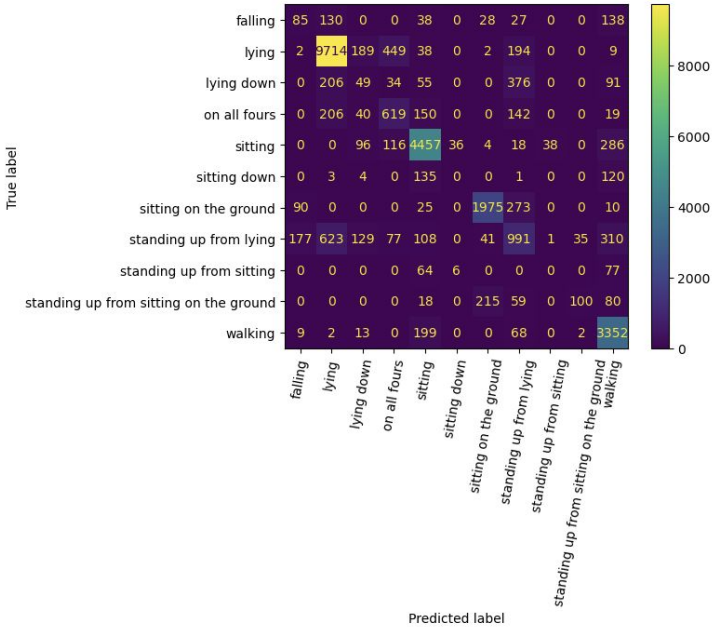
Best K is:  200  has value:  0.7050121248864321
```

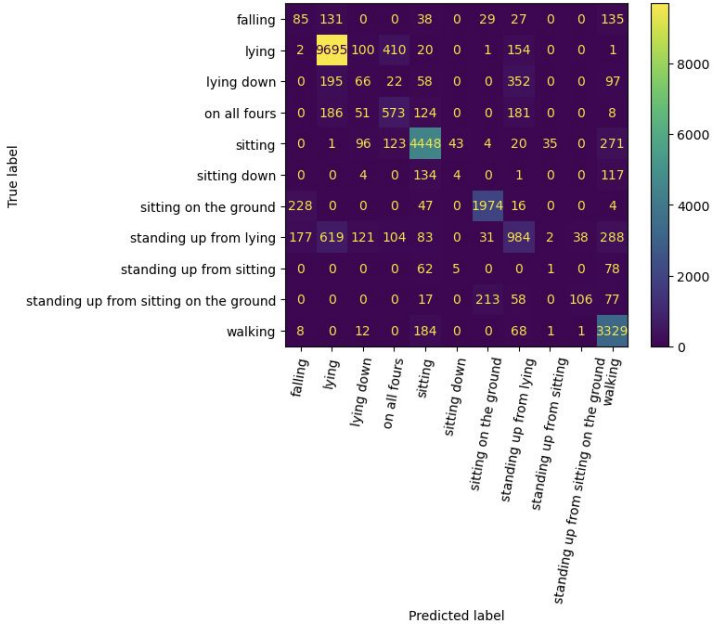
K-Value testing using only all sensors.

	precision	recall	f1-score	support
falling	0.23	0.19	0.21	446
lying	0.89	0.92	0.90	10597
lying down	0.09	0.06	0.07	811
on all fours	0.48	0.53	0.50	1176
sitting	0.84	0.88	0.86	5051
sitting down	0.00	0.00	0.00	263
sitting on the ground	0.87	0.83	0.85	2373
standing up from lying	0.46	0.40	0.43	2492
standing up from sitting	0.00	0.00	0.00	147
standing up from sitting on the ground	0.73	0.21	0.33	472
walking	0.75	0.92	0.82	3645
accuracy			0.78	27473
macro avg	0.49	0.45	0.45	27473
weighted avg	0.75	0.78	0.76	27473



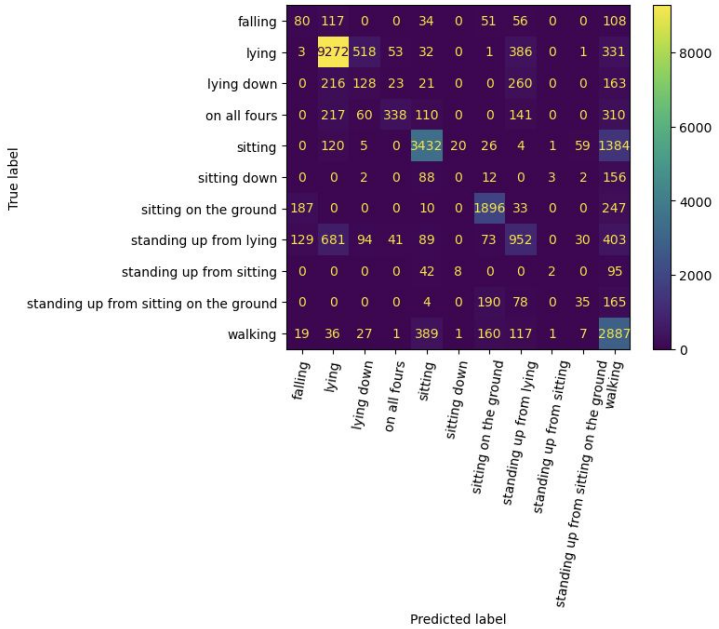
KNN using all sensors. K=200. Accuracy report and confusion matrix.

	precision	recall	f1-score	support
falling	0.17	0.19	0.18	445
lying	0.90	0.93	0.91	10383
lying down	0.15	0.08	0.11	790
on all fours	0.47	0.51	0.49	1123
sitting	0.85	0.88	0.87	5041
sitting down	0.08	0.02	0.03	260
sitting on the ground	0.88	0.87	0.87	2269
standing up from lying	0.53	0.40	0.46	2447
standing up from sitting	0.03	0.01	0.01	146
standing up from sitting on the ground	0.73	0.23	0.34	471
walking	0.76	0.92	0.83	3603
accuracy			0.79	26978
macro avg	0.50	0.46	0.46	26978
weighted avg	0.77	0.79	0.77	26978

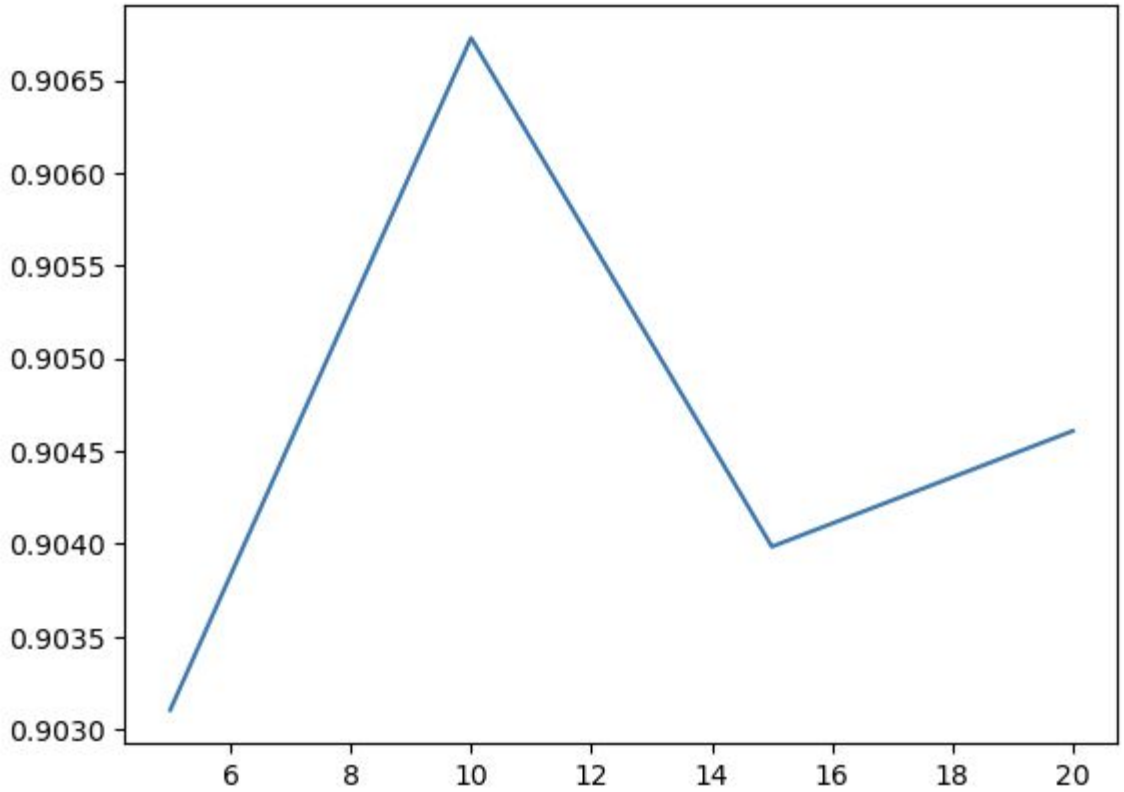


KNN using inly chest sensor with outliers removed. K=130. Accuracy report and confusion matrix.

	precision	recall	f1-score	support
falling	0.19	0.18	0.19	446
lying	0.87	0.87	0.87	10597
lying down	0.15	0.16	0.16	811
on all fours	0.74	0.29	0.41	1176
sitting	0.81	0.68	0.74	5051
sitting down	0.00	0.00	0.00	263
sitting on the ground	0.79	0.80	0.79	2373
standing up from lying	0.47	0.38	0.42	2492
standing up from sitting	0.29	0.01	0.03	147
standing up from sitting on the ground	0.26	0.07	0.12	472
walking	0.46	0.79	0.58	3645
accuracy			0.69	27473
macro avg	0.46	0.39	0.39	27473
weighted avg	0.70	0.69	0.68	27473



KNN using the three principal components that contained the most variance as features. K=130. Accuracy report and confusion matrix.

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Best K is:  10  has value:  0.9067269226781116
```
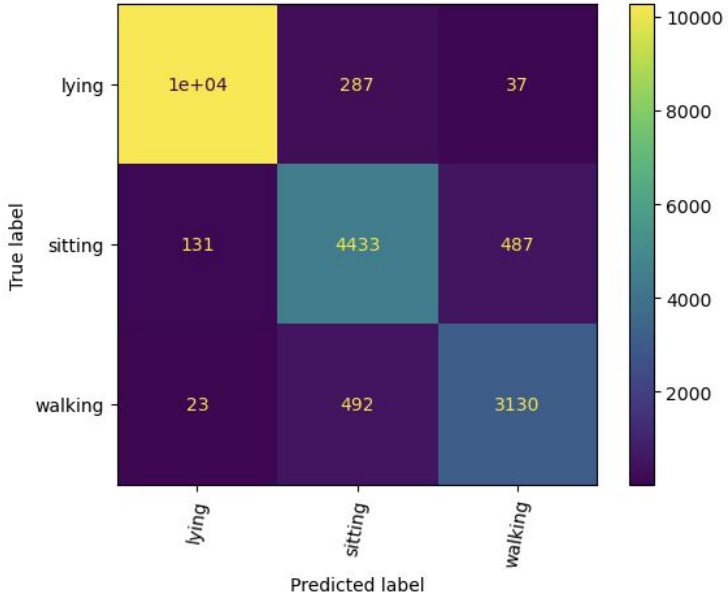

K-Value testing for KNN model using features Euclidean distance between sensors and z-coordinate difference between sensors.

	precision	recall	f1-score	support
lying	0.99	0.97	0.98	10597
sitting	0.85	0.88	0.86	5051
walking	0.86	0.86	0.86	3645
accuracy			0.92	19293
macro avg	0.90	0.90	0.90	19293
weighted avg	0.93	0.92	0.92	19293



KNN model using features Euclidean distance between sensors and z-coordinate difference between sensors. K = 10