?
?
??
?
??
??
??
?
?
?
?
5000
256
?
4096
4097
12
?
MAPE
42
80%−
20%
?
?
?
$m \in$
$\{2, 4, 8, 16, 32, 64, 128, 256\}$[1]
$\hat{x}$
$\hat{y}$
$\hat{y}$
$\hat{x}$
$\hat{y}$

$$LossMAE = \frac{1}{N}\sum_{i=1}^{N}|x^{(i)} - y^{(i)}|.$$

[2]

$$LossMAPE = \frac{1}{N}\sum_{i=1}^{N}\frac{|x^{(i)} - y^{(i)}|}{x^{(i)}}.$$

$x^{(i)}$
$\bar{x}^{(i)}$

$$LossMAAE = \frac{1}{N}\sum_{i=1}^{N}\frac{|x^{(i)} - y^{(i)}|}{\bar{x}^{(i)}}.$$

Size $m =$ 256 has not been tested in [?]. The formula presented in the original article by [?] differs from the MAPE formula, despite having

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?
?
100
23.6
173.6
12
0.53
40
?
s
?
5
18
3
32
256
16
23
52
24
?
$FT9 - FT10$
200
4096
?
??

Acurracy	**Precision**	**Specificity**	**Sensitivity**	**F-Measure**
$\frac{TP+TN}{TP+TN+FP+FN}$	$\frac{TP}{TP+FP}$	$\frac{TN}{TN+FP}$	$\frac{TP}{FN+TP}$	$\frac{2 \cdot Precision \cdot Sensitivity}{Sensitivity+Precision}$

?
10
?
?
921600
3600s
$_{p}er_{f}ile.pdf Accumulated variance per sample, consideringa sample as each recording file.$
??
??
$_{p}er_{p}erson.pdf Accumulated variance per sample, consideringa sample as being all the recordings of each person.$
??
?
$_{a}ll.pdf Total accumulated variance in the first ten people of the dataset, as granular as possible.$
10
$FT9-$
$FT10$
??
??
??
??
5

Dimension	**k_neighbors**	**svm_linear**	**svm_radial**	**decision_tree**	**random_forest**	**multi_layer**	**ada_boost**	**gaussia**
2								
4								
8								
16								
32								
64								
128								

Dimension	**k_neighbors**	**svm_linear**	**svm_radial**	**decision_tree**	**random_forest**	**multi_layer**	**ada_boost**	**gaussia**
2								
4								
8								
16								
32								
64								
128								

$_{2}.pdf Classification Accuracy Results of AE - CDNN - MAE for Dataset1[?], Reproduced Original and Difference.$
$_{3}.pdf Classification Accuracy Results of AE - CDNN - MAAE for Dataset1[?], Reproduced Original and Difference.$
??

Dimension	**k_neighbors**	**svm_linear**	**svm_radial**	**decision_tree**	**random_forest**	**multi_layer**	**ada_boost**	**gaussia**
2								
4								
8								
16								
32								
64								
128								

Dimension	**k_neighbors**	**svm_linear**	**svm_radial**	**decision_tree**	**random_forest**	**multi_layer**	**ada_boost**	**gaussia**
2								
4								
8								
16								
32								
64								
128								

$_{4}.pdf Classification Accuracy Results of AE - CDNN - MAE for Dataset2[?], Reproduced Original and Difference.$
$_{5}.pdf Classification Accuracy Results of AE - CDNN - MAAE for Dataset2[?], Reproduced Original and Difference.$

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??
?
??

??
$ni =$
2
??
??
5-foldk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boost gaussian_nb
5-foldk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boost gaussian_nb
gaus-
sian_nb
svm_linear
svm_radial
multi_layer
5-foldk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boost gaussian_nb
5-foldk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boost gaussian_nb
$m =$
4
3
2
4
0
$istribution_4.pdfFeatureDistributionofAE-CDNN-MAEandAE-CDNN-MAAE,with,inthefirstdataset.$
??
$oss_mae_maae.pdfChangeoflossfunctionofAE-CDNN-MAEandAE-CDNN-MAAE,inthefirstdataset,with.$
??
$oss_mae_mape.pdfChangeoflossfunctionofAE-CDNN-MAEandAE-CDNN-MAPE,inthefirstdataset,with.$
??
$ethods.pdfComparisonofaccuracyfordifferentlossfunctions(AE-CDNN-MAE,AE-CDNN-MAAE),and$
??
Dimensionk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boost gaussia
$CV =$
10
10
??
??
??
??
ni
Dimensionk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boostgaussian
2
4
8
16
32
64
128
256
Dimensionk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boostgaussian
2
4
8
16
32
64
128
256
40%, 23%
6%
Dimensionk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boostgaussian
2
4
8
16
32
64
128
256
Dimensionk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boostgaussian
2
4
8
16
32
64
128
256
32
70%
K
71%
2
0
Dimensionk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boostgaussian
2
4
8
16
32
64
128
256
Dimensionk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boostgaussian
2
4
8
16
32
64
128
256
Dimensionk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boostgaussian
2
4
8
16
32
64
128
256
Dimensionk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boostgaussian

F−
measure
ROC−
AUC
k

Dimensionk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boostgaussian
2
4
8
16
32
64
128
256

Dimensionk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boostgaussian
2
4
8
16
32
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128
256

Dimensionk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boostgaussian
2
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Dimensionk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boostgaussian
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Dimensionk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boostgaussian
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Dimensionk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boostgaussian
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Dimensionk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boostgaussian
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Dimensionk_neighborssvm_linearsvm_radialdecision_treerandom_forestmulti_layerada_boostgaussian
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128
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