

	<b>F1-score (accuracy)</b>	<b>number of features</b>	<b>Fit time (in Second)</b>	<b>Predict time (in Second)</b>
<b>Bernoulli Naive Bayes -- BOW (bag of words) 1 gram</b>	0.84879	67708	1020 (17 min)	5520 (92 min)
<b>LR(logistic regression)-- BOW- Only letter input (without numbers and etc.) 1gram</b>	0.88561	27254	10	2
<b>LR BOW Only letter input (1, 4) gram</b>	0.88961	104211	106	7
<b>LR tf-idf Only letter input 1 gram</b>	0.89061	27254	7	2
<b>LR tf-idf Only letter input 1,4 gram</b>	0.89481	104211	95	6
<b>LR BOW Raw input 1 gram</b>	0.88541	27745	29	4
<b>LR BOW Raw input 1,2 gram</b>	0.89521	166041	54	9
<b>LR BOW Raw input 1,3 gram</b>	0.89601	290118	114	14
<b>LR BOW Raw input 1,4 gram</b>	0.89521	342886	230	230

<b>LR</b> tf-idf Raw input 1 gram	0.89181	27745	20	6
<b>LR</b> tf-idf Raw input 1,2 gram	0.90881	166041	55	8
<b>LR</b> tf-idf Raw input 1,3 gram	0.91161	290118	110	10
<b>LR</b> tf-idf Raw input 1,4 gram	0.91301	342886	199	20
<b>LR</b> tf-idf Raw input 1,5 gram	0.91301	358250	211	13
<b>LR</b> tf-idf input with cleanup 1,3 gram	0.91381	284493	116	12
<b>LR</b> tf-idf input with cleanup 1,4 gram	0.91581	334012	169	18
<b>LR</b> tf-idf input with cleanup & SWP (separate word from punctuation) 1,3 gram	0.91441	284955	117	10
<b>LR</b> tf-idf input with cleanup & SWP 1,4 gram	0.91561	333673	166	20

<b>LR</b> tf-idf input with cleanup & lemmatize 1,3 gram	0.91161	283063	108	11
<b>LR</b> tf-idf input with cleanup & lemmatize 1,4 gram	0.91281	334089	178	12
<b>LR</b> tf-idf input with cleanup & NWN (next word negation) 1,3 gram	0.91381	264522	89	9
<b>LR</b> tf-idf input with cleanup & NWN 1,4 gram	0.91441	297461	147	11
<b>LR</b> tf-idf input with cleanup & lemmatize & SWP 1,3 gram	0.91201	283682	85	8
<b>LR</b> tf-idf input with cleanup & lemmatize & SWP 1,4 gram	0.91241	333997	141	11
<b>LR</b> tf-idf input with cleanup & lemmatize & SWP & NWN 1,3 gram	0.91281	263993	90	9
<b>LR</b> tf-idf input with cleanup & lemmatize & SWP & NWN 1,4 gram	0.91261	298356	132	10

<b>SVM</b> tf-idf Raw input 1,4 gram	0.91521	1010594	167	13
<b>SVM</b> tf-idf input with cleanup 1,4 gram	0.91501	987640	155	15
<b>SVM</b> tf-idf input with cleanup & NWN 1,4 gram	0.91401	899187	156	12
<b>SVM</b> tf-idf input with cleanup & lemmatize 1,4 gram	0.91321	987519	171	12
<b>SVM</b> tf-idf input with cleanup & SWP 1,4 gram	0.91481	988012	161	16
<b>SVM</b> tf-idf input with cleanup & lemmatize & SWP & NWN 1,4 gram	0.91541	901848	164	13