Optimized Hyper-Parameters

	Random Forest	Logistic Regression	Neural Network
n-gram 1	bootstrap: false criterion: gini max_depth: 1120 max_features: 3595 min_samples_leaf: 46 min_samples_split: 7262	solver: liblinear penalty: l2 dual: 0 class_weight: balanced C: 0.196751	tol: 0.006524 solver: adam hidden_layer_sizes: 298 alpha: 0.0065998 activation: relu
n-gram 1 (tfidf)	bootstrap: false criterion: entropy max_depth: 646 max_features: 3096 min_samples_leaf: 103 min_samples_split: 2279	solver: liblinear penalty: l2 dual: 0 class_weight: balanced C: 3.208425	tol: 0.0018538 solver: adam hidden_layer_sizes: 128 alpha: 0.004652 activation: relu
n-gram 1 (hashed)	bootstrap: true criterion: gini max_depth: 5312 max_features: 6142 min_samples_leaf: 249 min_samples_split: 5151	solver: liblinear penalty: l2 dual: 0 class_weight: balanced C: 3.186873	tol: 0.000156 solver: adam hidden_layer_sizes: 167 alpha: 0.0065998 activation: relu
n-gram 2	bootstrap: false criterion: gini max_depth: 4418 max_features: 4496 min_samples_leaf: 173 min_samples_split: 3629	solver: lbfgs penalty: l2 dual: 0 class_weight: None C: 3.906311	tol: 0.005605 solver: adam hidden_layer_sizes: 241 alpha: 0.001542 activation: logistic
n-gram 2 (tfidf)	bootstrap: false criterion: entropy max_depth: 1251 max_features: 5586 min_samples_leaf: 289 min_samples_split: 1587	solver: sag penalty: l2 dual: 0 class_weight: balanced C: 1.130067	tol: 0.001043 solver: lbfgs hidden_layer_sizes: 156 alpha: 0.000597 activation: tanh
n-gram 2 (hashed)	bootstrap: false criterion: entropy max_depth: 3279 max_features: 7683	solver: lbfgs penalty: l2 dual: 0 class_weight: balanced	tol: 0.006715 solver: adam hidden_layer_sizes: 110 alpha: 0.0074729

Optimized Hyper-Parameters

	min_samples_leaf: 263 min_samples_split: 4406	C: 0.513080	activation: identity
n-gram 3	bootstrap: false criterion: gini max_depth: 959 max_features: 1451 min_samples_leaf: 110 min_samples_split: 1463	solver: lbfgs penalty: l2 dual: 0 class_weight: balanced C: 0.320353	tol: 0.003346 solver: adam hidden_layer_sizes: 161 alpha: 0.002585 activation: relu
n-gram 3 (tfidf)	bootstrap: false criterion: gini max_depth: 1475 max_features: 603 min_samples_leaf: 118 min_samples_split: 443	solver: liblinear penalty: l2 dual: 0 class_weight: balanced C: 0.379010	tol: 0.003180 solver: adam hidden_layer_sizes: 33 alpha: 0.006972 activation: tanh
n-gram 3 (hashed)	bootstrap: true criterion: gini max_depth: 8754 max_features: 6386 min_samples_leaf: 8356 min_samples_split: 8313	solver: newton-cg penalty: l2 dual: 0 class_weight: balanced C: 0.018505	tol: 0.001587 solver: lbfgs hidden_layer_sizes: 173 alpha: 0.005586 activation: relu

For more information on the parameters, compare:

1. Random Forest: http://scikit-learn.org/stable/modules/generated/sklearn.ensemble.RandomForestClassifier.html#sklearn.ensemble.RandomForestClassifier
2. :Logistic Regression: http://scikit-learn.org/stable/modules/generated/sklearn.linear_model.LogisticRegression.html#sklearn.linear_model.LogisticRegression
3. Neural Network: http://scikit-learn.org/stable/modules/generated/sklearn.neural_network.MLPClassifier.html#sklearn.neural_network.MLPClassifier

All last fetched on February 16 2018.