1 Without probability

CV method: `RepeatedStratifiedKFold(n_splits=5, n_repeats=6)`. So, `training_data` are 0.8 of `data` and `testing_data` are 0.2 of `data`.

While computing the training time, `training_data = data`.

1.1 Standard models

Data info: `data.shape = (2000, 100)`

	SVC	RFC	KNC

Best HP	`kernel = 'rbf'`
	`gamma = 0.0151`
	`C = 1.45`
		`n_estimators = 400`
		`min_samples_split = 3`
		`bootstrap = False`
			`n_neighbors = 1`
			`algorithm = 'ball_tree'`
			`leaf_size = 10`
			`p = 8`

Score	0.98054 ± 0.00627	0.91433 ± 0.01130	0.90033 ± 0.01501
Training time	0.506 s	13.519 s (4 thread)	0.106 s (4 thread)

1.2 Data augmentation

Data info: `data.shape = (400000, 100)`

	SVC	SVC bagging	RFC	KNC

Best HP	`kernel = 'rbf'`
	`gamma = 0.0145`
	`C = 0.8`
		`kernel = 'rbf'`
		`gamma = 0.0145`
		`C = 0.8`
		`n_estimators = 4`
		`max_samples = 0.95`
			`n_estimators = 400`
			`min_samples_split = 3`
			`bootstrap = False`
				`n_neighbors = 1`
				`algorithm = 'ball_tree'`
				`leaf_size = 10`
				`p = 8`

Score normal dataset	0.98966 ± 0.00214	0.98967 ± 0.00204	0.99608 ± 0.00118	0.98917 ± 0.00224
Score augment. dataset	0.98966 ± 0.00214	0.98980 ± 0.00187	0.99587 ± 0.00118	0.98917 ± 0.00224
Training time	1 h 53 m 50.236 s	1 h 21 m 1.844 s (4 thread)	5 h 9 m 18.714 s (4 thread)	45.476 s (4 thread)

1.3 Sorted models

Data info: `data.shape = (2000, 100)`

	SVC	RFC	KNC

Best HP	`kernel = 'linear'`
	`C = 0.15`
		`n_estimators = 400`
		`min_samples_split = 3`
		`bootstrap = False`
			`n_neighbors = 1`
			`algorithm = 'ball_tree'`
			`leaf_size = 10`
			`p = 8`

Score	0.99932 ± 0.00124	0.98992 ± 0.00518	0.99842 ± 0.00177
Training time	0.017 s	0.899 s (4 thread)	0.097 s (4 thread)

2 With probability: computational time

Data info: `data.shape = (2000, 100)`

Every model has been tested using 'data' and repeating the test 2000 times. So, the testing sample is about 4'000'000 elements. The final time reported is the sum of every single testing time.

N.B.: the training time is different only for the SVC model, because of the hyper parameter `probability = True`; the other models always calculate the probability.

2.1 Standard model

	SVC	**SVC bagging**	**RFC**	**KNC**
Training time	2.639 s	2.692 s (4 thread)	13.519 s (4 thread)	0.106 s (4 thread)
Testing time	12 m 47.225 s	9 m 57.627 s (4 thread)	6 m 44.651 s (4 thread)	4 h 0 m 39.048 s (4 thread)

2.2 Sorted model

	SVC	**RFC**	**KNC**
Training time	0.766 s	0.899 s (4 thread)	0.097 s (4 thread)
Testing time	3 m 9.198 s	3 m 26.799 s (4 thread)	1 h 23 m 32.290 s (4 thread)